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A CONSTRUCT VALIDITY STUDY OF DABROWSKI'S
THEORY OF POSITIVE DISINTEGRATION
AND AUTHENTIC EDUCATION

by

© EARLE H. BAIN

A THESIS

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FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled A Construct Validity Study of Dabrowski's Theory of Positive Disintegration and Authentic Education submitted by Earle H. Bain in partial fulfilment of the requirements for the degree of Doctor of Philosophy.

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Date: June 2nd, 1975

To my wife Judy, and our daughters Sherri Lynn and Kim.

The true meaning of positive disintegration lives within me because of the intensity of your love and understanding. I cherish our life together, and the potential you have given us for the future.

ABSTRACT

The purpose of this investigation is to study the construct validity of Dabrowski's level of development concept, operationally defined by index scores achieved on a modified form of Dabrowski's Verbal Stimuli Test. Since both Dabrowski and Cattell place considerable importance upon the concept of anxiety in their respective theories, pre and posttest administrations of four anxiety related factors of Cattell's 16 PF Test were chosen to study the construct in question.

Three of Cronbach's and Meehl's five validation procedures - (1) study of process, (2) group differences, and (3) study of change over time - were utilized to answer the following two questions and their five related hypotheses.

Question 1: What types of peak and nadir experiences do first and second year university students have, and do they perceive these experiences as enhancing, retarding or having no effect upon their personality development? Question 2: Do accelerated developers differ from normals on the H, O, Q_2 and Q_4 factors of the 16 PF scale, and do changes over time on these same dimensions discriminate one group from the other?

The peak and nadir verbal stimuli collected (N = 173) were: (1) classified according to Flanagan's critical incident technique to determine the types of these experiences, and (2) judged in terms of Dabrowski's functions, dynamisms and overexcitabilities to distinguish level index scores. The types of nadir and peak experiences found were essentially mirror images of one another, and were interpreted as reflecting processes predictable from Dabrowski's theory. A synopsis of these categories follow: (1) academic disappointments and successes, (2) identity disintegration and formation, (3) eros nadir experiences and love related peak experiences, (4) poor and successful transition from home to university and, (5) role and interpersonal conflict with peers and deeply satisfying friendships.

Question 1 and hypotheses 1 and 2 ($N = 93$), concerning differences between normal and accelerated developers, were confirmed via t tests between two means for independent samples, thus providing the expected group differences validation. Question 2 and hypotheses 3, 4 and 5 ($N = 77$) were concerned with group differences and study of change over time. They were answered utilizing a two factor (Groups and Occasion) experimental design with repeated measures (16 PF scores) on one factor. The level index scores and 16 PF comparisons implicit to hypotheses 3 and 5 were not supported. An unexpected finding related to hypothesis 5 was that normal developers are more reactive to situational or state anxiety than accelerated developers.

Hypothesis 4 was partially confirmed. Mean changes for the two groups on the H, O, and Q_4 scales did not differ, as expected. However, an unexpected interaction effect ($p<.05$) was found on the Q_2 scale. Over time, accelerated developers became more "group dependent", while normal developers became more "self sufficient". The dynamics underlying this change were attributed to the socializing impact of the peer culture.

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CHAPTER I

INTRODUCTION

Statement and Importance of the Problem

The purpose of this investigation is to study the construct validity of Dabrowski's (1964, 1967, 1970) theory of emotional and personality development. The University of Alberta (U of A) in Edmonton is vitally concerned with the scholarly, professional, and personal development of each of its approximately 19,000 full time students. The Faculty of Education, whose students provided the data for this study, is particularly interested in the personality development of its students because of the various educational leadership roles its graduates play within the community at large.

The college years, usually encompassing the ages 18 through 21, are often accompanied by a state of acute identity confusion (Erikson, 1968). This period is reputedly characterized by energetic competition, violent emotion, peer intimacy, rebellion, indecisiveness concerning occupational choice, identity crises, and personality change. Chickering (1969), Heath (1965, 1968), Sanford (1956, 1968) and White (1952) believe that colleges provide a model setting for accomplising these developmental tasks. College is the ideal home away from home. It offers independence from parental control, a strong peer culture, an outlet for the emotions, and stimulation of the intellect by mature and learned faculty members.

According to Webster, Freedman and Heist (1962) personality changes occur early, mainly within the first two years of college, and particularly during the first year. Bain (Notes 1 and 2) found the same to be true of students attending the Royal Military College of Canada. More specifically significant changes were found on 10 of the 16 factors of the Cattell (1972) Personality Factor (16 PF) questionnaire. These changes occurred from the beginning of the freshman year to the start of the sophomore year; only one additional change in the group (N = 62) took place by the beginning of the junior year. The pondering of the results of this earlier investigation led to the present study. Significant changes ($p < .01$) on Factors "C" (Affected by feelings versus Emotionally stable), "O" (Self-assured versus Apprehensive), and Q_4 (Relaxed versus Tense) indicated that students who remained at R.M.C. became less "emotionally stable", more "apprehensive" and more "tense" during their first year at the college, and that the levels achieved on these dimensions remained to the beginning of their third year.

A detailed literature review in the area of personality development of college students uncovered an anomally that appeared highly correlated with the Bain findings just cited. This anomally is the excessively high level of anxiety existing within first and second year university students, and the part it plays in the resolution of adolescent developmental tasks and crises.

In June 1971 the University of Alberta (U of A) formed a committee to study anxiety in its students (Report of the Committee to Study Student Stress, 1973). It found that "Science, Education and Art Faculties showed half or more of its students expressing concern about the amount of stress encountered in University" (p.17). This proposal was designed to study the impact of university upon the individual. The report, just mentioned, places considerable importance upon increasing our knowledge about (1) "maturational pressures facing students generally" and (2) "the personality make-up of the University student body" (p.6). The results of this study are expected to provide insights into these very factors.

What is the relationship of anxiety to personality development during attendance at university? According to Madison (1969), "student MMPI scores show more anxiety; in fact, their test profiles tend to look more pathological than those of the general population" (p.464). Further, Madison's qualitative study of student development suggests a strong positive correlation between an individual's level of anxiety and his rate of developmental change.

To grow and mature means to change from what one has been, and the rapid change that occurs, especially during the first year of university, is naturally upsetting. The movement from one point in the developmental life of a person to another higher level often requires a distintegration of certain aspects of the personality before a new integration is possible. Both Dabrowski (1964, 1967) and Madison (1969, 1971) believe that the symptoms of disintegration appear concurrently with developmental crises, and that these occasions provide "increased insight into oneself, creativity and personality development" (Dabrowski, 1964, p.18).

Sanford (1956, 1962, 1967) develops a similar thesis. He believes that people do not change unless they are challenged by a situation in which the devices they already possess cannot be used to adapt to the situation. When such challenges confront a student, he must innovate or fail to develop. University presents many such challenges - be it in the classroom, on the sports field or during the dormitory "bull" session.

Purpose of the Study

A basic assumption underlying this investigation is that personality development is a function of our failures and anguishes (nadir experiences) as well as our joys and satisfactions (peak experiences). That this is the case, is evident in studies by Ebersole (1970), James (1958), Laski (1961), Margoshes and Litt (1966), Maslow (1964), McLain and Andrews (1969), Otto (1967), Rochlin (1965), and Thorne (1963). The purpose of this study is two-fold:

1. To carry out a construct validity check on Dabrowski's concept of level of development which is defined in terms of normal and accelerated development, and measured by a modified form of Dabrowski's and Piechowski's (Note 6 Verbal Stimuli Test (Group differences validation).
2. To determine the types of nadir and peak experiences that undergraduate university students have (process validation) and the impact these experiences have upon personality development.

Both Cattell and Dabrowski place a great deal of importance upon the concept of anxiety in their respective theories. Cattell's 16 PF test has embedded within it a 40 item anxiety scale; it is mainly on the basis of the subscales containing these items that the construct validity of Dabrowski's concept of accelerated development will be tested. Both theorists address themselves to the question

"When does disintegration (which is accompanied by high levels of anxiety) lead to maturity and accelerated development, and when does it fail to do so?"

Accelerated Development

What is accelerated development (it will be defined operationally in Chapter III) and what are its correlates? This is a question that has been addressed by philosophers, psychiatrists, psychologists, sociologists, and educators alike. Their answers usually have one or more of the following three dimensions in common: (1) anxiety, (2) challenge and (3) self-determination. "To venture causes anxiety, but not to venture is to lose one's self . . . and to venture is to precisely become conscious of one's self" (Sören Kierkegaard).

To explain the dynamics of personality development, Dabrowski (1964) postulates that there is a tendency in man to evolve from lower levels of personality development to higher ones. Dabrowski, Kawczak, and Piechowski (1970) make the distinction between normal or biologically and socially determined development, and accelerated or autonomous development. The former is usually characterized by an average level of intellectual development and some degree of under-development of the emotional domain; while in the latter kind of development "we usually observe above average abilities, emotional richness and depth, as well as an inclination to psychoneurosis" (p.29).

High levels of anxiety correlate with psychoneuroses (Cattell and Sheier, 1961). Since 1952 Madison (1969, 1971) has been attempting to understand the personality dynamics related to the pathological level of anxiety in university students.

> Thus, anxiety would seem to have very different meanings when it is associated with a defensive personality organized to resist threatening changes than when it is associated with emotional commitment to a challenging role . . . Apparently anxiety can be associated with personality growth as well as personality disorder. (Madison, 1969, p.464)

Student development is viewed in this study as the product of three major interacting factors, namely, (1) heredity, (2) environment, and (3) self-determination or Dabrowski's (1964, 1967) "third factor." Accelerated development, according to Dabrowski, goes hand in hand with a profound knowledge of oneself and a deep experiencing of life. The driving force behind accelerated development is the third factor; it is characterized by multiple forms of psychic overexcitability.

The potential for accelerated development (Piechowski, Note 11) is marked by nervousness, anxiety, psychoneuroses, and by the presence of several of the following forms of overexcitablity: sensual, psychomotor, affective, imaginative and intellectual. Dabrowski observes that the last three forms of overexcitability are the most important.

The individual with a rich developmental potential is self-determining and he often rebels against his genetic limitations and the determining factors in his external environment that demand that he be like everyone else. He has the courage to stand behind his convictions; he is continually responding to self-induced challenges; and he has the flexibility to change. The process of becoming truly self-determining is a long, slow and often painful procedure that is directed mainly by the third factor dynamism.

> The individual begins to accept and affirm some influences and to reject others from both the inner and outer milieu. There arises a disposition towards conscious choice and autodetermination. Self-awareness and self-control increase; retrospection and prospection become stronger, imposed forms of reality begin to weaken. The individual seeks his own higher identity, chosen and determined by himself. He does not want to be content with only one level of mental life which has been imposed on him by his social milieu. He searches for his own hierarchy of values and is sensitive to the distressing negative facets of life. When he has a happy experience he remembers the sad fact that it will not endure. He tries to overcome his sensory and logical world by striving to create, in imagination, [illegible] better world. He attempts to go beyond a sense-oriented, rationalist empiricism, since he recognizes it to be only one level of reality, and attempts to reach the higher level of synthesis, intuition, existential and transcendental experience. (Dabrowski, et al. 1970, p.33)

Table 1 (See p.16) attempts to show how the various constructs of Dabrowski's theory are related to one another. Figure 1 (See p.17) depicts three of Dabrowski's five levels (primary integration, three different levels of distintegration, and secondary integration or the personality ideal level) of personality development. Imbedded in the relationship between the various dimensions contained in Table 1 and Figure 1 is the theoretical basis of this study. This will be elaborated upon further in Chapter II.

Accelerated and normal development will be defined operationally in Chapter III. Non-operational definitions of these terms with regard to the constructs mentioned in Table 1 and Figure 1 are: accelerated development is a

> Type of development characterized by multiple forms of psychic overexcitability (primarily emotional, imaginational, and intellectual), strong creative instinct, and strong autonomous factors. Accelerated development tends towards organized multilevel distintegration and secondary integration it, thereby, tends towards transcending the psychological type and the biological life cycle (Dabrowski, 1972, p.289).

> Normal development is characterized by either the absence of overexcitability or by limited strength of its forms . . . By "normal" we mean the type of development that is most common; it entails the least amount of conflict and of psychological transformation (Dabrowski and Piechowski, Note 6, pp. 6-7).

Questions to be Answered

Dabrowski et al (1970) have formulated over 70 hypotheses related to the theory of positive disintegration and its various levels and types of development. Two of these hypotheses are of particular interest to this investigation because they are being tested in an indirect sense. The hypotheses in question are:

1. A high threshold of resistance to frustration correlates negatively and a low threshold correlates positively with later transitions to higher phases of development (p.151).

2. Nervousness, neuroses, psychoneuroses and the so-called educational difficulties accelerate the development and increase its many sidedness (p.152).

Chapter III states explicitly five additional hypotheses which evolve from the following four general questions:

1. What types of nadir or traumatic experiences do students have during their attendance at university and do they perceive these experiences as enhancing, retarding or having no effect upon their personality development ?
2. What types of peak or wonderful experiences do students have, and what is the perceived impact that these experiences have upon personality development ?

3. Do accelerated developers differ from "normals" on the various dimensions of the Cattell (1972) 16 Personality Factor (16 PF) scale across both test periods?
4. Do changes in personality profiles over time, for the two groups, load on different dimensions? In this analysis change will be defined in two ways, as:
    a. Differences between pre- and posttest mean personality profile test scores; and,
    b. Differences between pre- and posttest dispersion or standard deviation scores on the same dimensions for the two groups.

Data Analysis and Research Design

The critical incident technique, an invention of John C. Flanagan (1952), will be utilized to determine the types (see questions1 and 2 just cited) of nadir and peak experiences students have. It "consists essentially in the collection of reports of behaviours which were critical in the sense that they made the difference between success and failure in the observed work situation" (p.378). In this study a critical incident is a reported nadir or peak experience (each of which has a behavioural, feeling, and thought component) that is:

1. Classified (Flanagan, 1952) to determine the types of painful and happy experiences students have, and

2. Judged in terms of Dabrowski's (Note 5) functions, dynamisms and overexcitabilities to determine each individuals'
   (a) level of emotional development and,
   (b) type (one-sided, normal, accelerated) of development.

It is expected that both the Dabrowski and Flanagan analyses of the critical incidents collected, coupled with the Cattell personality data will provide hypotheses generating material concerning the maturational pressures and developmental trends existing in first and second year education students attending U of A. This is precisely the kind of information that the Report of the Committee to Study Student Stress stated was needed.

Questions three and four concerning personality differences between accelerated and normal developers, along with changes on these same dimensions over time, will be answered utilizing a two-factor experimental design with repeated measures on one factor outlined by Winer (1971, pp. 514-604). The two factors or independent variables in question are: (1) Groups (normal versus accelerated developers) and (2) occasions (the pre and posttest measures taken on the dependent variables, the 16 PF scores).

Significance and Limitations of the Study

This study does not intend to critique university teaching practices in terms of its focus, namely, accelerated development of university students. However, it does suggest, along with the writings of May (1967) an interesting starting point in this regard -

"this emphasis upon piling fact upon fact in itself undermines the experience of identity of the student, and is a prime cause of [neurotic] anxiety (p.48) . . . The aim of education should be the widening and deepening of consciousness" (p.50).

Implicit to this proposed study is the author's belief that authentic education can and should be a stimulating, stressful, and growth producing experience. The thesis - that optimum or accelerated development occurs when stress is great enough to challenge previous modes of adaptation, but not so great as to induce extreme neurotic or psychotic anxiety - grew out of case study analysis, and has never really been studied quasi experimentally. This study will investigate this phenomenon quasi experimentally, and provide a partial answer to the question "When does disintegration lead to maturity and when does it fail to do so?"

Other questions that this study could provide partial answers to are: (1) How do personality development and various types of crises relate to the two major kinds of college attrition, namely, voluntary withdrawal and academic failure; and (2) How closely does the U of A approximate the implicit ideal stated in the "Report of the Committee to Study Student Stress" (1973):

> Nietzche stated that "the advancement of learning at the expense of men, is the most pernicious thing in the world "and suggested the end result of this to be that "learning itself is finally destroyed." We urge therefore that the University's commitment to learning be defined in the broad perspective of man's integrated intellectual, physical, social and spiritual capacities and needs. (p.42)

CHAPTER II

THEORETICAL FRAMEWORK AND RELATED LITERATURE

Introduction and Major Literature Reviews

The purpose of the theory and literature review to follow is to uncover the critical variables and issues pertaining to the dynamics of personality development of undergraduate college students. It is the investigator's belief that education cannot be value free, and that at its very best it is therapeutic. Further, he is in total agreement with Sanford (1968) when he says: "Education ought to be concerned with the development of personality characteristics such as flexibility, creativity, and openness to experiences" (p.858).

The move from high school to university often alters drastically a student's pattern for achieving and maintaining his self-esteem. (Sanford, 1962; Feldman and Newcomb, 1969). From the moment the freshman enters university, he is confronted with the values, norms and roles structures of a social system that are often very different from what he has been accustomed to. Usually without the same encouragement from parents and teachers, a student must complete assignments, write papers, and pass examinations. He must organize his time efficiently and is constantly caught in the approach/avoidance situation where he must decide between work and the pursuit of pleasure. Should his work be his play, then he has a real advantage over most of his classmates.

The personal tempo of his life at university is often altered dramatically. There are deadlines to be met that may require all night "cram" sessions; and there is often little opportunity for reflection and repose because it appears that each professor assumes his course is the only one the student is taking. The subliminal task eventually becomes the development of an inner self control over impulse. Students must learn to set priorities in order to survive; they must learn to neglect selectively at least some of the work assigned. This process causes many students to doubt their abilities and level of competence. They measure themselves against an "ideal student" who is a composite person possessing the best qualities of 20 or 30 people they know. This often results in a shattering disintegration of the ego leading to apathy, despair and total bewilderment. We as teachers, parents and counsellors must be aware of the dynamics of this process and be prepared to assist if asked to do so.

Major literature reviews by Feldman and Newcomb (1969) and Stern (1970) indicate that the college experience can accelerate, retard or deflect development, and the type of impact depends upon the personality characteristics of the person who encounters it, and the institutional setting that it takes place in.

The research of Stern (1970) and his colleagues revolves around studies utilizing two instruments, namely, the Activities Index (AI), and the College Characteristics Index (CCI). The instruments were based on Henry Murray's theory of personal needs and environmental press conditions. Through factor analyses of the 30 scales of each instrument, 12 personality and 11 environmental factors have been defined to describe the characteristics of students and their college environments. A refactorization defined four second order personality factors (Achievement Orientation, Dependency Needs, Emotional Expression, and Educability), and three environmental dimensions (Intellectual Climate, Non-intellectual Climate, and Impulse Control). The AI scales parallel those of the CCI, the former corresponding to the behavioural manifestations of the various need variables, and the latter to environmental press conditions likely to inhibit or facilitate their expression.

Feldman and Newcomb (1969), in their two volume work, review and analyse over 40 years of research done on university students. Variables found to explain college impact upon students include: student characteristics at entrance, the nature of the college environment, the colleges' public image, institutional size, and homogeneity of the student body.

The major findings of Newcomb and Feldman deemed relevant to this study include the following: (1) Freshman to senior characteristics have been changing with considerable uniformity in most colleges in the past twenty years. These include declining authoritarianism, dogmatism, and prejudice; development of more liberal (less conservative) attitudes; and growing sensitivity to aesthetic experiences. (2) Experiences, within the same college, associated with the pursuit of different academic majors usually have effects over and beyond those that can be accounted for by initial selection into the major fields. (3) Small residential 4-year colleges provide the best opportunity for campus-wide impacts. (4) Attitudes held by students on leaving college tend to persist as evidenced by alumni studies.

Further, Feldman and Newcomb (1969), point out lucidly the key difficulties in the past in inferring personality development by changes in "maturity" from changes in scores on personality and value tests.

> For meaningful analysis of the degree to which changes on personality tests indicate increases (or decreases) in "maturity", it is important that the traits being measured represent meaningful psychological entities. Moreover, rather than being arbitrarily chosen, they should be selected in conjunction with a systematic, conceptual orientation to the problem of maturity. (pp. 350-351)

Dabrowski's Theory of Positive Disintegration

Dabrowski's (1964, 1967, Note 7) views on authentic education based on his theory of "Positive Disintegration" forms the conceptual basis of this research. Authentic education, according to Dabrowski, is not value free. It is based on a hierarchy of values, which is developmental in itself. Authentic education can and should be a stimulating, stressful and growth producing experience. Implict to this statement is a belief that maturity and psychological health should not be defined as freedom from tension and anxiety, since anxiety and tension are often prerequisites and accompaniments of increased insight into oneself, creativity and self-preservation. The ultimate value or goal of education is to assist the person to grow to his fullest humaness. Bain (Note 3), Bertalanffy (1964), Feldman (1969, 1972), Neill (1960), Rogers (1969), Sanford (1968) along with Dabrowski, each define education in the classical sense as -- the unfolding of human potentialities.

Dabrowski, Kawczak, and Pierchowski (1970) believe human development proceeds through as many as five clearly distinguishable stages or levels (See Table 1 and Figure 1), namely, primary integration, three different levels of distintegration (unilevel, spontaneous multilevel, and directed multilevel) and secondary integration (the level of the personality ideal).

TABLE 1

THE CONCEPTUAL STRUCTURE OF THE THEORY OF POSITIVE DISINTEGRATION

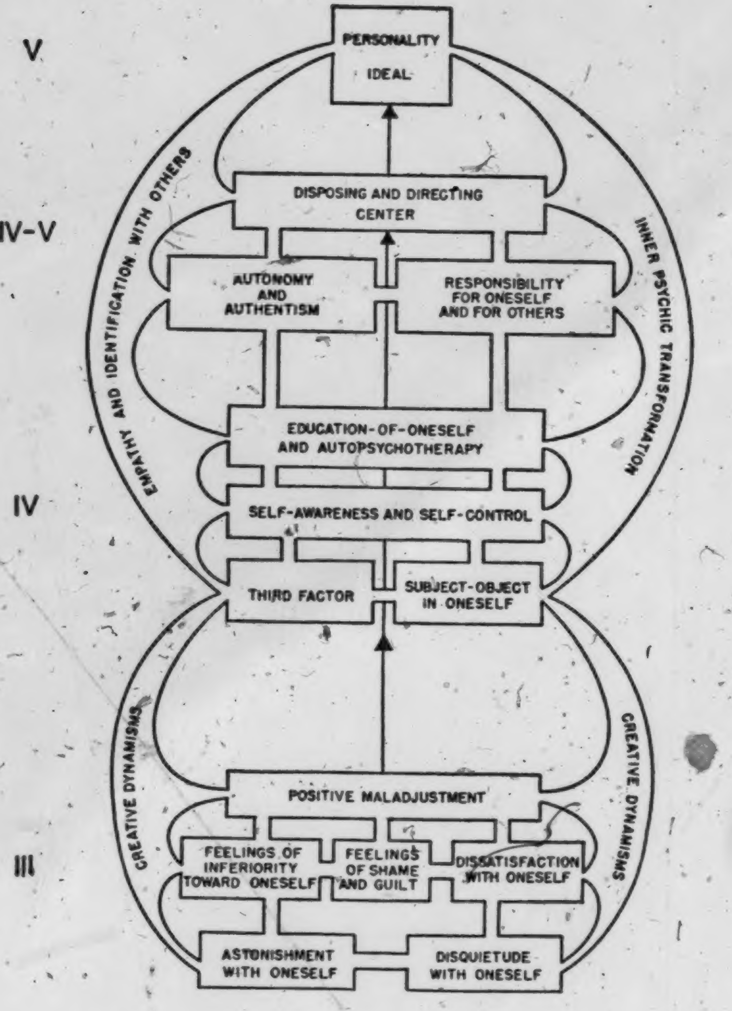
	DEFINING CHARACTERISTICS	STRUCTURE	LEVEL	FACTORS IN DEVELOPMENT	SETS OF CONDITIONS	LEVEL OF MOST SIGNIFICANT ROLE
DEVELOPMENT	sets of dynamisms (d)	secondary	V			
		multilevel	IV III	3rd	autonomous inner processes	III, IV, V
		unilevel	II	2nd	environment	I, II
		primary	I	1st	heredity	I
DP[a]	d+oe	FORMS OF OVEREXCITABILITY (OE)				
		emotional intellectual imaginational			may limit development to II	essential for III, IV, V
		sensual psychomotor none	limits development to I			

(Piechowski, Note 11, p.17)

Note: a. DP refers to Developmental Potential, it is defined operationally on page 56 of this thesis.

FIGURE I

DIMENSIONS OF THE INNER PSYCHIC MILIEU


V
IV-V
IV
III
PERSONALITY
IDEAL
DISPOSING AND DIRECTING CENTER
AUTONOMY AND AUTHENTISM
RESPONSIBILITY FOR ONESELF AND FOR OTHERS
EDUCATION-OF-ONESELF AND AUTOPSYCHOTHERAPY
SELF-AWARENESS AND SELF-CONTROL
THIRD FACTOR
SUBJECT-OBJECT IN ONESELF
POSITIVE MALADJUSTMENT
FEELINGS OF INFERIORITY TOWARD ONESELF
FEELINGS OF SHAME AND GUILT
DISSATISFACTION WITH ONESELF
ASTONISHMENT WITH ONESELF
DISQUIETUDE WITH ONESELF
EMPATHY AND IDENTIFICATION WITH OTHERS
INNER PSYCHIC TRANSFORMATION
CREATIVE DYNAMISMS
CREATIVE DYNAMISMS

Legend to Figure 1.

This schematic diagram illustrates the main relationships between dynamisms of the inner psychic milieu in multilevel disintegration. The dynamisms placed in the lower part of the diagram represent the spontaneous phase of multilevel disintegration. Creative dynamisms appear very early and develop along with the appearance of new dynamisms and into the later phase of multilevel disintegration. Creative dynamisms together with inner psychicic transformation, empathy and identification represent dynamisms present in all stages of development of a multilevel inner psychic milieu. The diagram depicts them as merging with inner psychic transformation and empathy but it is to be understood that they continue to operate even on the level of personality—the highest level of development.

The arrows indicate the primary relationships between certain dynamisms. Thus positive maladjustment is the dynamism from which emerge the broader and stronger dynamisms of self-awareness and self-control. In turn, the dynamism of self-control together with the third factor give rise to the disposing and directing center on a high level. It is this center that will ultimately coordinate and integrate all dynamisms of the inner psychic milieu with the personality ideal which in its full fruition produces personality.

The third factor is the central dynamism in the development of personality but for the sake of clarity it was not possible to indicate on the diagram all its ramifications.

(Dabrowski et al., (1970) pp. 66-67)

The dynamisms (the motivational forces of development as posited by the theory of positive disintegration -- i.e. astonishment with one-self, positive maladjustment, inner psychic transformation etc.) can co-operate or conflict with one another; and in both cases they serve to enhance personality development of the inner psychic milieu. For Dabrowski, personality is an achievement, an ideal; it can be approached, it can be known for fleeting moments, but never fully attained. Dabrowski (1967, pp. 10-42) described the characteristics of this "Personality Ideal" and their relationship to the mental, social and religious domains of human life. There is a high correlation between these characteristics and those described by Maslow (1970, pp. 149-181) in his discussion of "self actualized persons."

To explain personality development, Dabrowski (1964) postulates a developmental instinct: "that is, a tendency of man to evolve from lower to higher levels of personality" (p. xiv). Implicit in this statement are two basic assumptions: that empirically verifiable levels of emotional and mental development exist, and that personality development is a painful process that occurs through positive disintegration and confrontation of the unknown within one-self and ones environment. Dabrowski continually emphasizes that growth towards the personality ideal is a long, slow, painful process involving social interaction, introspection, retrospection and prospection.

Stimulated by the developmental instinct, man progresses via biological drives and environmental influences (mainly family and social milieu), to a higher level of development where forces of the third factor predominate. The third factor coupled with the disposing and directing center of a person transcend the egoistic (basic or deficiency needs level of Maslow's (1970) need hierarchy) and dwell on higher order values basic to the betterment of all mankind (roughly equatable to Maslow's meta needs level). Both Dabrowski (1967) and Maslow (1967) emphasize the biological rooting of value life. To the question -- "What guides our development -- intellect or instinct and emotions?" -- they would reply that they both do! King (1975), a student, colleague and friend of Dabrowski clarified this important issue for the investigator:

> Dr. Dabrowski feels that emotions play a vital part in the psychic life of man. Emotions resulting from experience are the basis of rational thought in man. Man is as human as he is emotional. He is not arguing for a free display of primitive emotions, but a balanced interaction of emotion and reason, neither one in total control, but neither one totally excluded in one's actions. (King, Note 8)

Psychic excitability, according to Dabrowski (Note 5) is the major determining factor of a person's developmental potential. Dabrowski et al (1970) distinguish between two types of development; the first "taking place in conformity to the universal laws of development of the human species, to the biological cycle of life" (p.29), and the second "which takes an accelerated form and transcends the cycle of biological transformations" (p.29). The latter level is a characteristic of "accelerated" developers, while the former is representative of "normal" growth.

Dabrowski believes that the accelerated form of development is accompanied by various forms of over-excitabilities (modes of acting and experiencing in the world) namely, psychomotor, sensual, intellectual, imaginational, and emotional. He uses the term overexcitability rather than excitability to emphasize the fact that only when excessive amounts of energy are present can accelerated as opposed to normal development take place. In other words, normal development is characterized by psychic excitability, not overexcitability.

Piechowski (Notes 10 and 11) through content analysis of autobiographical material, identified 433 instances of overexcitability. A thumb nail sketch of each of the five modes follows:

> . . . the psychomotor mode is one of movement agitation, need for action whether trivial or well planned; the sensual mode is one of surface interaction through sensory inputs of pleasure and displeasure; the intellectual mode is one of analysis, questioning and logic; the imaginational mode is one of dreams, images, plans never carried out, strong visualization of experience whether direct or from heresay; the emotional mode [most important] is one of relationship with others and one-self, of the despair of loneliness and of the joy of love, of the enigma of existence (Dabrowski and Piechowski, Note 6, p.4).

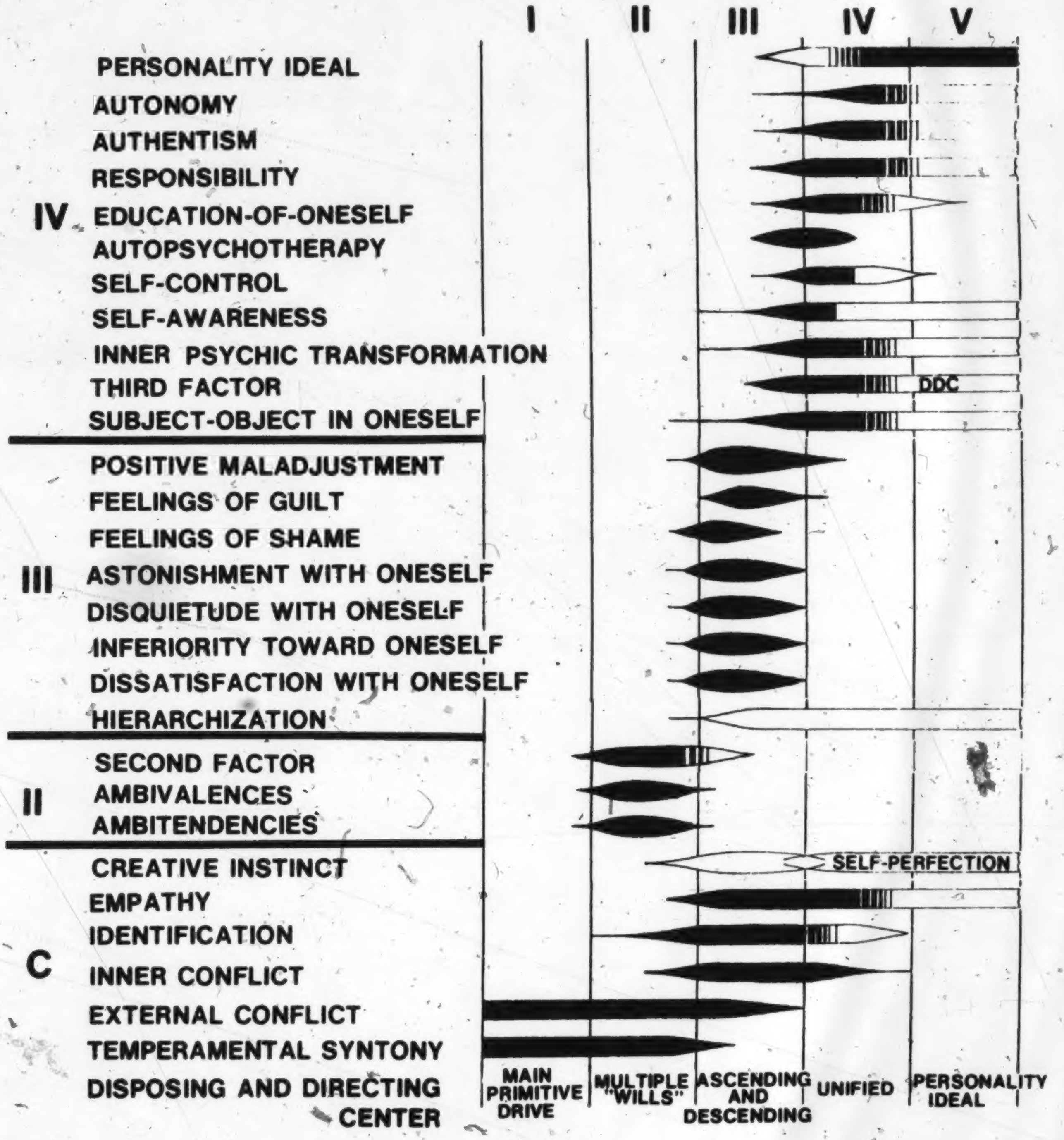
The case studies by Madison (1969, 1971) and Bain (Note 4) also provide rich material in understanding the dynamics of personality development in relation to the concept of "overexcitability".

Levels and Types of Development

Dabrowski et al (1970) define five levels of development; the defining characteristics (dynamisms) of each level are shown in Figure 2. Dabrowski and his colleagues have prepared files of types of responses for each of the five levels of development for each item in the Verbal Stimuli Test. More will be said about these files in Chapter III. Group C dynamisms in Figure 2 contain the dynamisms whose activity extends and develops over several levels. Psychic tension (see the shaded areas of Figure 2) accompanies the operation

FIGURE 2

DABROWSKI'S DYNAMISMS ARRANGED ACCORDING TO THEIR CORRESPONDING LEVEL OF DEVELOPMENT [a]



Note: a. Taken from Piechowski, Note 11.

of each dynamism. The dynamisms are viewed by Piechowski (Note 10) to be derivatives of the five types of overexcitability explained earlier and displayed in Table 1. Accelerated development is always associated with multiple forms of overexcitability, and the operation of numerous dynamisms with their accompanying psychic tensions.

Level I: Primary Integration. It is the least differentiated level of development and characterized by a marked absence of developmental dynamisms (see columnl of Figure 2). The constructs measured by high scores achieved on the Adorno F Scale and the Rokeach Dogmatism Scale parallel remarkably well the characteristics attributed to this level by Piechowski (Note 11):

> It is characterized by externality, rigidity, lack of emotional relationships with others (others are treated as things), instrumentality of intelligence (absence of reflection), absence of internal conflicts but occurrence of external conflicts. Behaviour is oriented toward the satisfaction of basic needs and is in all its aspects egocentric, such as striving for positions of recognition and power (p. 29).

Level II: Unilevel Distintegration. The dominating aspect at this level of development is the second or environmental factor with it accompanying ambivalences and ambitendencies dynamisms. On this level the rigid self control characterized by the authoritarian and dogmatic type of personality begins to crumble. Doubts and uncertainties begin to eat away at the basic cognitive and affective structures underlying the individual's belief system. Emotional relationships with others at this level are characterized by possessiveness, jealousy and over dependence upon others. One sided development often characterized in the following severe mental disorders (psychosis phobias, psychosomatic disorders, and alcholism or drug addiction) can result because of the lack of hierarchical value structure at this level.

Level III. Spontaneous Multilevel Disintegration. This level is characterized by a critical awareness of oneself (self-consciousness) in relation to others, and a partially formulated hierarchy of values. It is the dynamisms of astonishment, disquietude, and dissatisfaction with onself, that brings about the destruction of the secure but growth retarding structure of primative integration. At this stage a person becomes dissatisfied with his situation and searches for something new, more exciting and more rewarding. Curiosity and astonishment make him aware of things that can be. These first rumblings, that signal that all is not well, are manifestations "of an emerging inner hierarchy which discriminates that which is 'lower' from that which is 'higher' (Dabrowski et al, 1970, p. 67)." This differentiation of beliefs, in the person concerned, plays a major role in the development of a value hierarchy. The positive maladjustment dynamism results from a conscious recognition of the discrepancy between the "self" and the "ideal self". It is the most important indication of a potential for accelerated development. This dynamism - along with feelings of inferiority, shame and guilt - bring about further value system changes. This is a stage of questioning and rebelling against the values incorporated without question from significant others in the environment. Considerable tension accompanies this rebelliousness. Moodiness and a feeling of shame and guilt are prevalent in interpersonal relationships; at this new level self awareness emerges. The feeling of guilt "expresses a retrospective reliving of experiences of one's own moral failures, real or imaginary" (Dabrowski et al, 1970, p.60).

Piechowski (Note 10), in his remarks with regard to this level, succinctly summarizes Dabrowski's theoretical position:

> Behaviour is guided by an emerging autonomous, emotionally discovered, hierarchy of values and aims. Self-evaluation, reflection, intense moral conflicts, perception of the uniqueness of others, and existential anxiety, are among the characteristic phenomena at this level of development. Outside of a developmental framework such reactions are considered psychoneurotic. To uncover the developmental multilevel nature of most psychoneurotic processes consitutes the major thrust of the clinical part of Dabrowski's work, as well as of his efforts to show that processes of the same nature operate in the development of creative personalities (p.31).

Level IV: Organized Multilevel Disintegration and Level V: Secondary Integration. These levels are third factor dominated. It is at these levels that conscious transformation of self occurs through autonomous inner processes. People operating at these levels are rarities. Jung's autobiography (Bain, Note 3) represents an unequalled account of human psychic development with regards to the dynamisms and overexcitabilities operating on these levels. It poignantly portrays the piercing ecstacy experienced in triumphant self-discovery, and the loneliness that accompanies a pursuit no one else understands. The sample of university students taking part in this study are not expected to display many level 4 and 5 types of dynamisms in their verbal stimuli replies. Readers interested in further elaboration of these latter two levels of development are referred to Dabrowski et al (1970).

Dabrowski distinguishes between onesided, normal and accelerated development. Normal and accelerated development have already been conceptually defined in Chapter I and reference was made to onesided development in the preceding Level II discussion. Examples of one-sided development and negative distintegration are not expected to be found in the sample volunteering for this study. Rosenthal and Rosnow (1969) discuss the characteristics of volunteers in psychological research; their findings suggest that the study's sample will be biased against onesided developers and in favour of normal and acclerated developers.

The foregoing discussion of levels and types of development leads logically to the definition of positive disintegration. Positive disintegration in its simplest terms means the letting go of the more primitive level I and II functions and dynamisms in favour of level III or higher types of structures. The term positive makes reference to the direction of the person's growth towards humanistic values such as truth, beauty, or goodness; positive also refers to the physiological, psychological, and spiritual evolution from lower to higher life forms. Negative disintegration, on the other hand, often ends in psychosis. It takes place at the stage of unilevel distintegration and is "characterized by the presence and operation of dissolving dynamisms and by the lack of developmental dynamisms" (Dabrowski et., 1970, p.165)

The purpose of the next section entitled "Cattell's Theory" is to present a thumb nail sketch of its central concepts. It will also review 16 PF literature whose findings parallel the key constructs in Dabrowski's theory.

Cattell's Theory and Related Literature

According to Cronbach and Meehl (1955) and the APA manual entitled "Standards for Educational and Psychological Tests and Manuals", construct validity studies investigate the theory underlying the test. Usually three steps are followed in studies of this type, namely:

> First, the investigator inquires: from this theory, what hypotheses may we make regarding the behaviour of persons with high and low scores? Second, he gathers data to test these hypotheses. Third, in light of the evidence, he makes an inference as to whether the theory is adequate to explain the data collected . . .
>
> A simple procedure for investigating what a test measures is to correlate it with other tests . . . construct validity is relevant when the tester accepts no existing measure as a definitive criterian of the quality with which he is concerned (p.13).

A central purpose of this study, as stated in Chapter I, was to do a construct validity check of Dabrowski's concept of level of development which was defined in terms normal and accelerated development. A modified form of Dabrowski's and Piechowski's (Note 6) Verbal Stimuli Test was used to determine each study participant's level of development and developmental potential. Since both Dabrowski and Cattell place a great deal of importance upon the concept of anxiety in their respective theories, Cattell's (1972) 16 PF Test (Forms A and B) was chosen to correlate with the Verbal Stimuli Test, and thus study the construct in question.

Cattell's theory of personality is based on factor analysis. The central concept in his theory is the "trait." A trait is a "mental structure" that is made and measured inferentially, and generated via appropriate factor analysis from observed behaviour to account for regularity in this behaviour. Cattell defines personality as a complex structure of traits. The major factors or traits of Cattell's theory are displayed in Table 2. On perusing Table 2 or a 16 PF profile sheet please keep in mind that the high score (Sten 10 or designated by its popular name followed by an + sign) always corresponds to the description on the right, and the low scores (Sten 1, - sign) to behaviour at the opposite pole, on the left. The 16 factors in the test are also mentioned in descending order of factor loading; i.e. Factor A achieved the highest (most stable) factor loading while Q_4 achieved the lowest. The themes of conformity (Dabrowski's second factor) and emotionality (the most important of Dabrowski's overexcitabilities) are common to many of the measures in Table 2.

Cattell and Scheier (1961) have reported that the first order factors -C-, affected by feelings; O+, apprehensiveness, H- shyness; and L+, suspiciousness - correlate well with psychiatric (MMPI) ratings of anxiety and the Taylor Manifest Anxiety Scale. It is mainly on the basis H, O, Q_2, and Q_4 scales of the 16 PF that the construct validity of Dabrowski's concept of level of development will be tested.

Cattell views anxiety both as a state and a trait. This distinction is an important one:

> A person's level of anxiety may be characteristic of him as a trait, and yet fluctuate considerably with situational and organismic influences as a state.
>
> States are investigated by factor analysis, as are traits, the differences being that traits are usually studied by correlations among test scores, and states by correlations among changes in test scores - over time or in response to a particular situation . . . (Hall and Lindzey, 1970, p.398).

TABLE 2

CATTELL'S 16 PERSONALITY FACTORS OR TRAITS [a].

	LOW SCORE DESCRIPTION	HIGH SCORE DESCRIPTION
A	**RESERVED,** DETACHED, CRITICAL, ALOOF, STIFF (Sizothymia)	**OUTGOING,** WARMHEARTED, EASY-GOING, PARTICIPATING (Affectothymia)
B	**LESS INTELLIGENT,** CONCRETE-THINKING (Lower scholastic mental capacity)	**MORE INTELLIGENT,** ABSTRACT-THINKING, BRIGHT (Higher scholastic mental capacity)
C	**AFFECTED BY FEELINGS,** EMOTIONALLY LESS STABLE, EASILY UPSET CHANGEABLE (Lower ego strength)	**EMOTIONALLY STABLE,** MATURE, FACES REALITY, CALM (Higher ego strength)
E	**HUMBLE,** MILD, EASILY LED, DOCILE, ACCOMMODATING (Submissiveness)	**ASSERTIVE,** AGGRESSIVE, STUBBORN, COMPETITIVE (Dominance)
F	**SOBER,** TACITURN, SERIOUS (Desurgency)	**HAPPY-GO-LUCKY,** ENTHUSIASTIC (Surgency)
G	**EXPEDIENT,** DISREGARDS RULES (Weaker superego strength)	**CONSCIENTIOUS,** PERSISTENT, MORALISTIC, STAID (Stronger superego strength)
H	**SHY,** TIMID, THREAT-SENSITIVE (Threctia)	**VENTURESOME,** UNINHIBITED, SOCIALLY BOLD (Parmia)
I	**TOUGH-MINDED,** SELF-RELIANT, REALISTIC (Harria)	**TENDER-MINDED,** SENSITIVE, CLINGING, OVERPROTECTED (Premsia)
L	**TRUSTING,** ACCEPTING CONDITIONS (Alaxia)	**SUSPICIOUS,** HARD TO FOOL (Protension)
M	**PRACTICAL,** "DOWN-TO-EARTH" CONCERNS (Praxemia)	**IMAGINATIVE,** BOHEMIAN, ABSENT-MINDED (Autia)
N	**FORTHRIGHT,** UNPRETENTIOUS, GENUINE BUT SOCIALLY CLUMSY (Artlessness)	**ASTUTE,** POLISHED, SOCIALLY AWARE (Shrewdness)
O	**SELF-ASSURED,** PLACID, SECURE, COMPLACENT, SERENE (Untroubled adequacy)	**APPREHENSIVE,** SELF-REPROACHING, INSECURE, WORRYING, TROUBLED (Guilt proneness)
Q_1	**CONSERVATIVE,** RESPECTING TRADITIONAL IDEAS (Conservatism of temperament)	**EXPERIMENTING,** LIBERAL, FREE-THINKING (Radicalism)
Q_2	**GROUP-DEPENDENT,** A "JOINER" AND SOUND FOLLOWER (Group adherence)	**SELF-SUFFICIENT,** RESOURCEFUL, PREFERS OWN DECISIONS (Self-sufficiency)
Q_3	**UNDISCIPLINED SELF-CONFLICT,** LAX, FOLLOWS OWN URGES, CARELESS OF SOCIAL RULES (Low integration)	**CONTROLLED,** EXACTING WILL POWER, SOCIALLY PRECISE, COMPULSIVE (High strength of self-sentiment)
Q_4	**RELAXED,** TRANQUIL, UNFRUSTRATED, COMPOSED (Low ergic tension)	**TENSE,** FRUSTRATED, DRIVEN, OVERWROUGHT (High ergic tension)

Note: a. These descriptions are the same as those appearing on a 16 PF profile sheet.

The aim of Cattell's theory of personality is to predict behaviour. Cattell claims he can do this by means of specification equations of the following form, which he and his colleagues have collected on a vast array of populations (Cattell, Eber, Tatsuoka, 1970).

$$R = s_1 T_1 + S_2 T_2 \ldots S_n T_n$$

where R is a given response, T_1 to T_n are the defining traits of the person, and S_1 to S_n are situational indices. Cattell views the specification equation as a multidimensional version of Kurt Lewin's formulation of behaviour (B) as a function of the person (P) and his environment (E), or

$$B = f\ (P,E)$$

Cattell's theory of personality is exceedingly complex. Its presentation here was kept simple, because the central construct under study comes from Dabrowski's theory. The 16 PF test, which presents operationally the key traits or factors of Cattell's theory, is the means by which the construct of level of development will be studied. This will be achieved by correlational and analysis of variance procedures between Dabrowski's level of development scores and the H, O, Q_2 and Q_4 factors of the 16 PF test.

Cattell et al (1970) Chapter 9, describe the research done with regard to each factor and various hypotheses related to them. Only the factor scores viewed by the investigator as highly correlated with the construct (type/level of development) in question will be discussed here. Cattell hypothesizes that the H- (Shy) person has an over-responsive sympathetic nervous system, and that this makes him especially "threat-reactive." In Dabrowski terms an H- score is probably indicative of the presence of one or more forms of overexcitability and an H+ the absence of the same.

The O+ (Apprehensive) person would appear to have a great deal in common with the level II or III type of person described earlier. Accelerated developers are expected to score higher on this dimension than are normal ones. This factor is an important one with regards to distinguishing onesided from accelerated developers in general populations. Clinically high O scores are often found "in neurotics, alcoholics, and many psychotics, notably non-paranoid schizophrenics" (Cattell et al, 1970, p.102). As mentioned earlier it is not likely that onesided developers will volunteer for this study, so it follows that O+ scores are expected to distinguish normal from accelerated developers and shed light upon the question "When does distintegration lead to maturity and when does it fail to do so?"

The Q_2+ (Self-sufficient) is one of the major factors in introversion; it would appear to correlate highly with Dabrowski's third or self-determining and autonomy factor. Cattell et al (1970) describes the Q_2+ person as "resolute and accustomed to making his decision, alone, while at the Q_2- pole we see a person who goes with the group, definitely depends on social approval more, and is conventional and fashionable" (p.105). In Dabrowski terms the Q_2- person is second factor (environment, social milieu) oriented.

The Q_4+ (Tense) factor, according to Cattell, proved difficult in many factor analyses to separate from O+. It follows that the comments made concerning onesided, normal and accelerated developers earlier with regards to the O+ factor hold here also. Both O and Q_4 factors are highly correlated with anxiety; this is why these two factors are viewed by the investigator as being exceedingly important in understanding the impact of nadir and peak experiences upon the personality development of university students.

Now that the central aspects of the theoretical basis of the current study have been presented, a summary of additional pertinent 16 PF studies will be presented.

Nichols (1967) did an impressive four year longitudinal and factor analytic study about changes of personality and interest during college. Instruments used to assess change were: the 16 PF Test, Holland's Vocational Preference Inventory, and 10 *a priori* personality scales designed by the investigation's author; the study looked at a total of 38 variables. The sample, an intellectually superior one, consisted of 1177 National Merit Finalists who were assessed on the instruments just cited prior to their entry into university in 1958. Four years later the 432 boys and 204 girls still remaining in the numerous (104 for boys, 86 for girls) colleges they attended were tested again.

Six orthogonol change factors were identified namely: (1) Diversity of interest, (2) femininity, (3)extraversion, (4) anxiety, (5) dominance, and (6) superego. What these factors mean is that "during college the students become more specific and differentiated in their motives and interests, more aware of their own shortcomings, and negative feelings, and less dependant on external standards of behaviour" (Nichols, 1967, p.189). A particularly interesting anxiety finding was that this factor increased at colleges which emphasized science and engineering curriculums. The Royal Military College of Canada is mainly an engineering school, and Bain (Note 2) found that the same anxiety increases occurred there also. Chapter I of this investigation discusses the Bain study in greater detail.

Nichols' findings suggest that changes do occur among persons who attend college. It does not answer the very important question "Do these same changes occur in people who don't attend university?" A study by Barton, Cattell and Vaughan (1973) addresses itself to this issue. The details of this study will be discussed later in the central issues portion of the chapter.

The last two studies to be discussed in this section are important because they serve as an introduction to the next major section of this literature review. They are concerned with understanding the relationship of specific student problems to various personality dimensions, and how this information can be utilized by teachers and counsellors alike in assisting in the optimal development of the student.

De Blassie's (1968) study was an attempt to answer two questions:- (1) Do personality differences, as measured by the 16 PF test, "exist between students at the college level who seek counselling (clients) and those who do not (non clients)?" (p.378), and (2) To what extent do personality differences exist between clients with personal-social problems and those with vocational-educational problems? The findings of the study indicate that the 16 PF does successfully differentiate the three groups from one another.

De Blassie's conclusions "that in terms of profile elevations there was a definite ordering of the client and non-client groups along the adjustment continuum from personal-social clients to vocational-educational clients to non-clients, with the latter being the best adjusted" (p.381) makes certain assumptions about adjustment that the theoretical basis of this study questions. Implicit in this study's findings is the belief that anxiety, tension, and apprehensiveness indicates poor adjustment. It fails to recognize the distinction implied earlier in the Cattell section of this literature review between existential anxiety, neurotic anxiety, and psychosis related anxiety.

Cohen's (1972) study entitled "Personality and Changing Problems among First Year College of Education Students" also fails to make this same distinction. Interpretations of the findings of both of these studies from Dabrowski's three factors of development frame of references (see Table 1) would be strikingly different.

In the Autumn of 1970 Cohen administered the Mooney Problem Check Lists and 16 PF test (Form C) to a sample of 112 women in their first year at a college of education. Cattell's second order factor entitled "Adjustment vs Anxiety" correlated significantly with 10 out of the 11 Mooney Problem areas. Cohen's comments in this regard are:

> Table 2 shows that Factor 1, ANXIETY, was substantially associated with reports of widespread problems when students first entered college, the correlation between anxiety and the overall number of reported problems being highly significant. ($r = .46$ $p < .001$)

> Particularly strong relationships ($p < .001$) between anxiety and student problems occurred in the areas of social-psychological relations ("wanting to be more popular", "feeling too easily hurt", "having no one to tell my troubles to"), personal-psychological relations, ("too easily discouraged", unhappy too much of the time", "afraid of making mistakes"), and courtship, sex and marriage, (deciding whether "to go steady", "wondering how far to go with the opposite sex", "breaking up a love affair").

The purpose of this portion of the thesis was to relate the literature pertaining to Cattell's theory and the 16 PF test to the theoretical (Dabrowski) basis of the present study. The distinction made between existential, neurotic and psychotic related types of anxiety is viewed as very important in understanding the studies concerning the impact of nadir and peak experiences upon the personality of university students next to be reviewed.

Adolescent Development and Peak and Nadir Experiences

The purpose of this section is to examine the assumption that personality development is a function of our failures and anguishes (nadir experiences) as well as our joys and satisfactions (peak experiences). The classic references in this regard are the works of James (1958), Laski (1961), Maslow (1964) and Rochin (1965).

Peak and Nadir Experiences Literature.

Since James (1958) classic work entitled "The Varieties of Religious Experience", which was written in 1901 - 1902, our views on the relationship between peak and nadir experiences and psychological adjustment have changed drastically. Maslow (1964) best expresses this change:

> William James assumed, with his time, that many of the religious experiences he discussed were abnormal and pathological. We know now this is true far less often than James thought. If anything, peak-experiences are more characteristic of health than of neurosis or psychosis. They may be pathological, but more often they are not. They are more often to be valued than to be feared. (p.xiv)

The study of peak and nadir experiences is viewed by the investigator as a way of studying paradox, and is essential to the understanding of Dabrowski's theory of personality development. Very often our most traumatic, unhappy moments, viewed in retrospect, have a way of transcending the situation and circumstances that engendered them and thus become the means for creative endeavour and further growth and development. Colin Wilson (1963), an existential novelist, was referring to this same phenomenon when he stated "there is a margin of the human mind that can be stimulated by pain or inconvenience but which is indifferent to pleasure" (p.315). Further he believes that man is most creative and most free when he comes under the influence of these crises or challenges. Similarly, Dabrowski (1964) believes the symptoms of positive disintegration appear concurrently with developmental crises, and like Wilson he feels that these occasions provide "increased insight into onself, creativity and personality development" (p.18).

Literary genuises such as Tolstoy, Shakespeare and Dostovesky in their penetrating character analyses provide numerous examples of in-depth case analyses of people experiencing the "agony and ecstasy" of life. James and Maslow develop these same themes from the philosophical and psychological realms respectively. Few studies are available that study these phenomena experimentally or quasi experimentally.

Thorne (1963) made a crude attempt to come to grips with the methodological problems in this area. Each subject taking part in his research was asked to share in writing three peak and three nadir experiences. These protcols were then sorted (the procedure isn't described) from which evolved a six level classification system with many sub levels existing at each of the major levels. The six levels for peak experiences were: (1) Sensual, (2) Emotional, (3) Cognitive (adventures of the mind), (4) Conative (man against destiny), (5) Actualization of the self (coming to be what one can become), and (6) Climax experiences (moments of extreme beauty, fulfillment, joy and full-living). Thorne claims that nadir experiences "reflect the opposite pole from peak experiences" (p.250).

"Which of your life experiences do you remember most vividly? (Do not write more than 2 or 3 sentences)" was the question asked by Margoshes and Litt (1966) of samples of 96 students taking an evening university course and 96 institutionalized psychotics. Classification of the responses into "peak", "nadir" and "doubtful" categories was completed by three judges independant of one another. The control group produced 58 peak experiences, 30 nadir, and 8 doubtful; the psychotic group yielded 45 peak, 47 nadir and 4 doubtful. Chi square analyses indicated that the control group recalled a significantly ($p < .05$) greater number of peak than nadir experiences. Significance in this regard was not achieved in the psychotic group.

Only one study was uncovered that utilized the 16 PF in its investigation of peak experiences (McClain and Andrews, 1969). The 139 subjects (4th year and graduate university students) taking part in the study were asked to complete The California F

(Authortarianism) Scale, the Rokeach Dogmatism Scale and Maslow's (1968) peak experiences question. The peak experience protocols were rated by two judges independently of one another (interjudge reliability was .87); 42 peak and 99 non peak classifications were assigned. F and D Scale results were significant at the .01 and .05 level of confidence respectively; suggesting that "peakers" were less authoritarian and less dogmatic. Significant 16 PF scale differences ($p < .05$) were achieved on 8 out of the 16 scales.

The last study in this section by Ebersole (1970) tested the hypotheses that nadir experiences can be a positive or growthful experience for some people. The study asked university students to share in writing with the investigator one peak and one nadir experience. A week later the same students were requested to write a paper describing the after-effects of each of these experiences indicating which they deemed to be the most important in their personal development. Thirty-nine percent of the study participants stated that nadir effects were more important than the peak effects.

Crisis and Adolescent Development in College

Allport (1968), Berlyne (1960), Erikson (1968), Maslow (1968, 1970) and Schachtel (1959) are some of the major theorists that address themselves to the importance of crisis in personality development. Each of these theorists react against the tension reduction views of the Freudians or the self consistency theorists like Lecky (1945) and view crises as a major determiner of normal personality development. Implicit to their views on crises is a tension seeking/enhancement or self transcendence model of man. Dabrowski also adheres to this model. Allport (1968) captures the nature of crises as well as anyone:

> What precisely is a "crisis"? It is a situation of emotional and mental stress requiring significant alterations of outlook within a short period of time. These alterations of outlook frequently involve changes in the structure of personality. The resulting changes may be progressive in the life or they may be regressive. By definition, a person in crisis cannot stand still; that is to say, he cannot direct his present traumatic experience into familiar and routine categories or employ simple habitual modes of adjustment . . . Sometimes, following a crisis, the adolescent will become stabilized anew after four or five weeks of severe disorganization; but in many cases the trauma retards development for a year or more and may even leave a **life** long scar. (p.174)

Nixon (1961), in a study of 600 "normal" female college students over a 10 year period captures the dynamics of this self-transcendence model in a way that only a clinician with a vast experience bank to draw upon can do. The sample Nixon is describing has much in common with Dabrowski's accelerated developers; this group he calls the acceptors, meaning "those who accept the capacity for self-cognition" (p.80) as opposed to the other two components of his three part typology, namely, the compliers (normal developers), and rebels (roughly equatable to Dabrowski's onesided developers). His concluding paragraph summarizes the attributes of these "too good to be true" youth (acceptors). These findings challenge traditional views of "adjustment" and personality much as Dabrowski does.

> The attributes of relatively little resistance, acceptance and utilization of anxiety, deliberate introspection, and self-referral, when taken out of the context of college psychotherapy and transposed into the context of the everyday world, arouse admiration. People who possess these characteristics try to rid themselves of misconceptions and blind spots concerning themselves and their actions in society, they have the capacity to face the unknown with courage, they have the strength of their own convictions, and they have the humility to seek objective

> appraisal of those convictions. They seem to be idealized figures, unreal, too good to be true; and yet they exist. Perhaps they embody the realization of everyman's dream, of everyman's potentiality. If it is their use of of self-cognition which makes the dream come true, then perhaps the psychiatrist can learn from them enough to help others accept the same potentiality in themselves and to use it, so that their growth toward adulthood may be less haphazard, less painful, less wasteful than it is now. (p.31).

In concluding this section, three other studies dealing with student anxiety and crises will be briefly mentioned. The first one by Vincent (1970) attempted to understand the sources and kinds of anxiety experienced by a random sample of 560 freshman and 518 sophomore university students. They were each tested on four tests; (1) the Vincent Free Answer Problem Sort Technique, Maslow's Security-Insecurity Inventory, the Vincent Draw Your Problem Test, and the Mooney Problem Check List. The study conclusions most relevant to this study are: (1) "the really immobilizing anxiety experienced by students which detracts from their ability to concentrate on academic tasks stems from dissatisfaction with their interpersonal relationships or their lack of any satisfactory interpersonal relationships"(p.665), (2) there is a large disparity between student "high school experiences and expectation of college and the reality of the college situation" (p.666). This reality coupled with the felt need in students to live up to parents expectations results in much student disillusionment, and (3) the part irrational beliefs students hold about themselves when compared with others indicates "a real need for help with reality testing and accurate self-appraisal and self-appreciation techniques" (p.666).

Studies by Waterman, Buebel, Waterman (1970), and

Pollack (1971) each looked at specific behaviours and how they related to crises resolution and personality development. The Pollack study based on Coleman's theory concluded "Frustration was most often resolved by changing goals. External pressure produced active coping behaviours. Conflict appeared to be the most difficult crisis to solve" (p.49).

Waterman et al (1970) did a two part study based upon Erikson's concepts of identity crisis and identity confusion. The 92 male freshman volunteers taking part in the study were administered Rotter's Interpersonal Trust Scale and his I-E (Internality and Externality) Scale. In addition each completed an ego-identity interview; from this students were sorted into high, mixed, and low ego-identity or level of development groups. It was found, as hypothesized, that students rated high on ego identity displayed a greater degree of internal control. No differences were found on the Interpersonal Trust Scale.

Other Major Theories Dealing with the Personality Development of University Students

Some kinds of personality and attitudinal changes in university students can sometimes just as easily be argued to be indicative of decreasing maturity or arrested development as increasing maturity. Izard (1962) makes this same point when interpreting the results of changes he found on certain scales of the Edwards Personal Preference Schedule:

> It isn't too difficult, ex post facto, to argue that these changes are in the direction of social and emotional maturity. Summarizing these personality characteristics as nearly as possible in terms of the operational or item-content definitions we might

> argue as follows. The decrease in Deference represents increased emancipation from authority figures, conformity pressures, and "other-directed" behavior. The increase in Autonomy represents a more critical attitude toward authority figures and conventions, and increased capacity to find rewards and satisfactions from one's own comings and goings, and an increased ability to make one's own decision independent of external pressures. The decrease in Abasement signifies an increase in feelings of adequacy and a decrease in susceptibility to feelings of guilt and inferiority . . .
>
> One weakness of the foregoing argument is that it might be possible to make an equally good case with . . . other personality variables or a different case with the same variables. For example, one might argue that the decreased Deference can be seen as rebellion, the increased Autonomy as the social irresponsibility characteristic of some of the personality disorders, decreased Abasement as self-centeredness or loss of super-ego controls (pp.3-4).

Confusions of this sort can be resolved by working in a theoretical framework such as Dabrowski's (1964, 1967) theory of Positive Disintegration, Sanford's (1956, 1966) "growth trends", Chickering's (1969) "vectors of development", or Heath's (1965, 1968) "model of a maturing person". Detailed descriptions of these and other related theories will not be given in this literature review, however, brief summaries are deemed appropriate.

The title of this study implies that personality does develop during the college years, and is manifested in an accelerated form in some individuals. This view is in marked contrast to self-consistency theorists such as Lecky (1945) who emphasize tension reduction - "any idea entering the system which is inconsistent with the individuals conception of himself cannot be assimilated, but gives rise to an inconsistency which must be removed as promptly as possible" (p.13).

Nevitt Sanford has spent over 40 years of his life studying the personality development of university students. He and his various colleagues at Stanford and the University of California (particularly the Berkeley Campus) were deeply influenced by Erikson (1950, 1961, 1963, 1968), and White (1952, 1963)..

Sanford's (1956) classic study of Vassar College women adopted White's (1952) five major trends of growth namely, "the stabilizing of ego identity", "the deepening of interests", "the freeing of personal relationships", "the humanizing of values", and the "expansion of caring." To these five trends Sanford added a sixth, "the general development and strengthening of the ego." His research with regard to these growth trends seriously questions "self consistency" and "tension reduction" theories of personality, and in this way is in total agreement with Dabrowski's views:

> Thus, the goals of "adjustment", "stability", and "peace of mind" -- if these terms refer to a general state of freedom from tension -- are fundamentally incompatible with the goal of development . . .
>
> The essential point is that a person develops through being challenged: for change to occur, there must be internal or external stimuli which upset his existing equilibrium, which cause instability that existing modes of adaptation do not suffice to correct, and which thus require the person to make new responses and so to expand his personality. If the stimuli are minor or routine, the child, instead of changing, will simply react as he has before. (Sanford, 1967, pp. 50-51).

Katz (1968) was a close associate of Sanford's and he and his colleagues have gathered a wealth of clinical and objective personality data in their studies of freshmen classes entering the University of California, Berkeley, and Stanford University in the fall of 1961. Variables chosen for study of several thousand students included the following: six scales from the Omnibus Personality Inventory, the Authoritarian and Ethnocentricism Scales, and an experimental Attitudes to Drinking Scale. In addition, a random group of over 200 students was selected for intensive interviewing and case analysis by a staff of experienced psychologists.

Katz concluded from his study of the development of university students that their ability to further their own happiness through transformation of their life style is not in a particularly advanced state. Katz's remarks in this regard would be interpreted by Dabrowski et al (1970) to suggest that the self-determining or third factor of development is inoperative in most students.

Dabrowski and Piechowski (Note 6) in a three year study of over a thousand students at the University of Alberta found this to be indeed the case "higher level subjects [accelerated developers] were not easily found, and it is now felt by the researchers that such subjects are not to be found randomly in the general population pools" (p.14).

Katz (1968), in reviewing the results of his research paints a dismal scene:

> The picture that emerges is that of a wide variety of patterns in which individuals react and develop during the college years. The college environment is a highly controlling one and it is so to the point of stress for many students, but some individuals have the psychological equipment not to let the formal and informal requirements of the structure interfere with their own individual development and they can utilize both the opportunities and even the obstacles of their environment for the purpose of their own growth. At the other extremes are those whose needs for passivity and for being told what to do have become so ego-syntonic that the comfort of orderly security does not

> make them experience requirements as either stressful or inhibiting. In between are the bulk of people whose lives never reach an adequate expression of their potential because they are handicapped by (1) inadequate self-awareness and inadequate self-assertion and (2) an environment whose demands and constraints are both not sufficiently elecitive of their potential and too thwarting to their spontaneity (pp. 1-2)

The unique contributions of Sanford's and Katz's other colleagues over the years are too numerous to outline in detail. The serious student of personality development can review these unique contributions for himself by referring to the writings of Madison (1968, 1969, 1971), Freedman (1956, 1961, 1965, 1967), Heist (1966, 1968), Korn (1968), Webster (1956) and Webster, Freedman and Heist (1962).

Heath (1965, 1968) studied personal development of a group of Haverford College males (N=73) utilizing a model of the maturing person deduced from biological, psychoanalytic and psychological theories and data. According to this model a person matures along five major dimensions: with the passage of time, he (1) represents experience symbolically, and becomes more (2) allocentric, (3) integrated, (4) stable, and (5) autonomous.

Four dependent variables were studied in relation to the model. They are (1) intellectual skills, (2) values, (3) self-concept, and (4) personal relations. Tests administered to tap these variables included: the Allport-Vernon-Lindzey, A Study of Values, the Strong Vocational Interest Blank, the MMPI, and two questionnaires that Heath developed, the Self Image Questionnaire and the Perceived Self Questionnaire.

Heath's findings with regard to freshmen parallel what you would expect after reading the research of Dabrowski and Sanford. Heath found that freshmen shocked by the demands of college, become unstable and disorganized, more aware of their own inadequacies, and questioned their competence and values. Peer relationships appear to be the major stabilizing factor during the first year. It is through these relationships that the student begins to question his values, those of his parents, and the directions his life will take in the future.

In Heath's (1968) re-evaluation of his five dimensional theory he realized that the process of maturity or developing was much more complicated than he envisioned. The question - "How does a psychologist distinguish between the seemingly chaotic and disorganized person who is maturing and the one who is regressing?" (Heath, 1968, p. 254) - is the same question that the present study is addressing itself to. Dabrowski's accelerated developer is often viewed as a "chaotic and disorganized person"; he is growing through the process of positive disintegration. Very often the normal developer is the one who utilizes repressive or regressive types of defenses to protect himself from perceived threats in his environment resulting from the rapid change in his life style.

Chickering's (1969) book entitled Education and Identity resulted from a five year study (from 1965 to 1969) of institutional characteristics, student traits, attrition, and student development in thirteen small colleges. This book describes seven major vectors of student development: (1) achieving competence, (2) managing emotions, (3) becoming autonomous, (4) establishing identity, (5) freeing interpersonal relationships, (6) clarifying purposes, and (7) developing integrity -- in relation to six aspects of the college environment-- (1) clarity of objectives and internal consistency, (2) institutional size, (3) curriculum, teaching,evaluation, (4) residence hall arrangements, (5) faculty and administration and (6) friends, groups and student culture.

Chickering's main purpose in devising this 7 by 6 array of variables was to synthesize what is known, and bridge the gap between available knowledge and current practice. His synthesis suggests two unifying principles of development, namely, (1) "Development occurs through cycles of differentiation and integration (p.292) and (2) "The impact of an experience depends upon the characteristics of the person who encounters it" (p.298).

Literature Review Issues

Carol Travis (1974), in an interview with Theodore Newcomb, asked him the following question: "From all that research [Newcomb (1971), Feldman and Newcomb (1969), and Newcomb,Koenig, Flacks and Warierok (1967)] and personal experience, what does college do for a person?" Newcomb replied:

> Frankly very little that is demonstrable. Undergraduates tend to be more independent at 22 than they were at 18, but so are kids who don't go to college. Four years of school make students somewhat more liberal, less authoritarian and prejudiced, more interested in aesthetics; but many people who don't go to college move in those directions too, though less dependably so (p.73).

Newcomb's reply to Travis's general question is predicated on his belief that students who don't attend university also continue to develop! The point he is trying to make is an important one and cannot be ignored.

Only two major studies could be found that addressed this problem directly. A longitudinal study by Trent and Medsker (1968) of 10,000 post-high school persons concluded: development, whether in terms of personality, attitude, or value change, took place most among university persisters, next most in withdrawing students, then in employed youth, and least of all among the homemakers who experienced neither employment nor college during the first four years after high school.

The next study to be reviewed is deemed particularly important in two ways: (1) it addresses itself to the issue raised by Newcomb and (2) the dependent variables of the study are the same ones used in the current investigation, namely the 16 factors of Cattell's personality inventory.

The study, by Barton, Cattell and Vaughan (1973) investigated the changes of personality as a function of work experience and college attendance. Cattell's (1972) Sixteen Personality Factor Test (16PF) was administered to a work group consisting of 105 females and 113 males, and a college group made up of 177 females and 178 males. The former group took a job immediately after leaving high school, while the latter attended university. Both students and workers were administered the 16PF twice, once during their senior high school year (1965) and again 5 years later. Two way (groups by time) analyses of variance were performed for each of the 16PF factors treated as dependent variables. Implicit in the summary of the findings of this study are three types of results; (1) age trend effects, (2) treatment effects, and (3) "a set of selective traits that differentiated the college and work groups initially" (p.162).

> In summary, intelligence and radicalism increased and suspicion decreased in both groups and these changes were considered to be age trends common to all young people leaving adolescence and entering young adulthood. In the case of the factors of tendermindedness, imagination, and cortertia [the tendency to think through problems instead of solving them on an emotional basis], although at all times the college group scored higher initially, they also increased in their scores on these factors at a higher rate than did the work group, suggesting that the college experience might facilitate such change. Self-sentiment scores were approximately the same for both groups initially, but the work group scored significantly higher than the college group at the end of 5 years, indicating that the work experience might facilitate the growth of self-sentiment more than does the college experience. Finally, although independence scores for the two groups were approximately equal at the time of the first testing, after 5 years, the work group scored significantly below that of the college group. Since probably more of the work group got married during this time period than did the college group, this drop in independence might be a function of the inherent dependence in marital relationships. An equally possible explanation is that the work group had to accept jobs that were quite low on any responsibility or independence hierarchy and thus were forced into a more dependent role than their more intelligent and imaginative college peers (p.165)

The chronology of when the greatest college impact occurs is another hotly debated issue in the literature. According to Webster, Freedman and Heist (1961) personality changes occur early, mainly within the first two years of college and particularly within the first year. Bain (Note 2) found the same to be true of students attending military college.

The studies by Bain and Wester et al just cited, tell only half the story. After an exhaustive survey of the literature on change in students, Jacobs (1957) reached the rather pessimistic conclusion that the college has little impact on values and personality attributes. More specifically, Feldman (1970) concludes:

> We [Newcomb and Feldman (1969)] were not particularly surprised to find no indication that freshman-sophomore differences were larger than sophomore-junior or junior-senior differences in most change areas surveyed. The major exception in the majority of studies is in the area of authoritarianism where freshman-sophomore differences (decreases) are larger than sophomore-junior and junior-senior differences (p.3).

How can these very different conclusions be accounted for? One possible explanation is in the definition of "impact." Most studies define impact in terms of average scores on various scales and responses to questionnaire items. However, college impact can also be measured by looking at changes in the dispersion or changes in standard deviation of scores measured. Contrary to Jacob's (1957) assertion, colleges vary tremendously in the increasing homogeneity of their student body on some major characteristics.

Case studies of developmental changes provide additional insight into this very important problem. Freedman (1967), Madison (1968, 1969) Sanford (1956, 1962) and Snyder (1966) continually stress the point that the timing of the change depend upon individual rhythms of adaptation. It is conceivable that some students will find the "culture shock" of their freshman year so threatening that they block change by utilizing repressive types of defenses. This is exactly what Bob did in the case study done by Madison (1968). Major changes in Bob's personality did not occur until his junior and senior years!

Freedman (1967) questions an even more basic assumption namely, that adolescence is a time of psychological and social turmoil! In a four year program of interviewing Vassar college women he discovered that less than one-third "had experienced or were experiencing emotional or psychological difficulties of the kind regarded as routine among adolescents" (p.40). Areas investigated included: attitudes towards pubertal changes and sexual matters, rebelliousness toward the family, and general stress and instability. As a result of this study Freedman expressed a concern that the Vassar environment was imposing too little strain on its students, with the end product being a "personality that is stable and integrated but lacking in depth and complexity" (p.56).

Concluding Remarks

Many key terms, central to Dabrowski's and Cattell's theories, have been defined in the preceding two chapters. Definitions implied or stated explicitly include: developmental instinct, accelerated and normal development, positive and negative disintegration, the third or self-determining factor, overexcitability, dynamisms, functions, trait and personality. The purpose of this section is to reiterate, in summary form, the central postulates underlying this study, and to define a few additional key concepts. The investigator's reason for doing this is to set the stage for the next chapter, where the central construct being studied (level of development) is defined operationally and embedded in five testable hypotheses.

Postulates:- A basic assumption underlying this investigation is that personality development and its accompanying value, attitude, and behavioural changes, is a function of our failures and anguishes (nadir experiences) as well as our joys and satisfactions (peak experiences). Implicit to this statement is the belief that maturity and psychological health should not be defined as freedom from tension, anxiety and psychoneuroses, since these forms of nervousness are often prerequisites and accompaniments of increased insight into creativity, oneself and self preservation. Dabrowski's theory of emotional development rests upon the postulates just stated and the belief that (1) empirically verifiable levels of emotional and mental development exist, and (2) that accelerated personality development is a painful process that occurs through positive disintegration (the giving up of the more primitive level I and II functions and dynamisms in favour of level III, IV and V types of structures).

Further definitions: Authentic education, for Dabrowski, is a process that facilitates the maximum unfolding of the individuals talents. By authentic,he means taking the responsibility for "the integrity of what we are" as ethical and valuing creatures. This position emphasizes that authentic education can and should be an existentially stimulating, stressful, and growth producing experience. Both Dabrowski and Cattell place a great deal of importance upon the concept of anxiety in their respective theories. According to Dabrowski (1972) existential anxiety is a major determiner of growth. It has empathic and intellectual components. Existential anxiety is predominant at levels III, IV and V. Concern for others prevails over concern for oneself. "Existential anxiety arises on the basis of psychic overexcitability . . ." (p.295). Psychotic related anxiety is predominant at levels I and II; psychoneurotic anxiety is defined in terms of mainly level III dynamisms (positive maladjustment, feelings of shame and guilt, etc.). Since 1957 Cattell has been attempting to distinguish each of the just mentioned forms of anxiety from one another, and has yet to succeed. He concludes that the consensus on the definitions of each form of anxiety is almost non existing and worthy of immediate research (Cattell, et al., 1972). Research reviewed utilizing the H, O, Q_2 and Q_4 16 PF scales imply that these very factors may aid in distinguishing these various types of anxiety, in addition to aiding in the construct validation of Dabrowski's concept of level of development.

A related question that needs to be answered is: Can a paper and pencil test such as Cattell's factor analytically derived 16PF scale discriminate in a multilevel manner such as Dabrowski's Verbal Stimuli Test claims to do? A perusal of the items comprising each of the 16 factors leaves little doubt in the investigator's mind that, with the possible exception of the H, O, Q_2 and Q_4 scales, Cattell's other 12 factors are not multilevel in the pure, non-confounding variable sense that Dabrowski's instinctive and emotional functions are.

CHAPTER III

RESEARCH PHILOSPHY, METHODS, AND PROCEDURES

Research Philosophy

Is man free (proactive), determined (reactive), or . . .? According to Kluckhohn and Murray (1949) each of us is "like all other men, like some other men, and like no other men" (p.35). Implicit in each of these two statements are three or more paradigms deemed useful in understanding man in general and ourselves in particular.

Traditional mechanistic or psychoanalytic and experimental or behaviouristic psychology view man as being "determined"; determined by forces beyond his control - unconscious and hereditary forces from within, and societal and cultural forces from without, including an evermore sophisticated scientific technology. Darwin's book, "Origin of Species", had a major impact upon the discipline of psychology and in particular Freud and Wundt as the fathers of these two major forces in psychology. Both of these men, and many of their disciples, adopted the methods of physics and biology in their formulations to explain the behaviour of man.

Individual (Allport, 1968) and Humanistic (Maslow, 1968) psychology are best understood by viewing them as reactions against the prediction and control emphasis of the deterministic (cause and effect) paradigm. The aim of Humanistic or "third force" psychology is to liberate man from the constraining pressures of hereditary, environmental and unconscious determiners, so that he may become fully conscious of himself and his holistic nature. The emphasis here is on understanding the uniqueness of the individual, his experiences and his innate potential to transcend himself. It was this frame of reference that moved Wilson (1967) to speculate that "we face the absurd possibility that the creature we have called 'man' does not yet exist" (p.78).

Basic to this study is the investigator's agreement with Giorgi (1969) that "psychology should be conceived as a human science and as such, it must be practiced and interpreted in ways that are different from psychology conceived as a natural science" (p.412). The same thesis is put forth by Buhler (1967),Carlson (1971), Hampden-Turner (1970), Jourard (1967), Maslow (1966), Moustakas (1967), Polanyi (1958, 1959),Rosenthal (1966), Weizsäcker (1950). The investigator sees man as both subject (like no other man) and object (like all other men). He is in complete agreement with May (1967) who sees such great psychologists as C. Rogers and B.F. Skinner attempting to avoid the subject-object paradox (proactive versus reactive) by focusing on opposite ends of the freedom and determinism continuum, yet "in the dialectical process between these two poles lies the development and deepening and widening of human consciousness" (May, 1967, p.20).

Previous literature reviews (Feldman and Newcomb, 1969; Stern, 1970) of the impact of university on personality development have been disappointing. The studies that were deemed scientific and statistically sound usually focussed in on psychological constructs in isolation. The deterministic or nomothetic approach, by definition, excludes the study of uniqueness. The idiographic approach, on the other hand, has its complementary shortcomings. Few studies in the past have recognized this paradox and attempted to transcend its dilemma.

It is the investigator's contention that science cannot be value free. Dabrowski's theoretical views rest on this assumption. This study intends to utilize meaningful and validated psychological identities (i.e. Cattell's 16 Personality Factors) in a manner that does not fragment our understanding of the individual and his personal development. This will be accomplished by utilizing both idiographic (peak and nadir protocols) and nomethetic (16 PF scores) means in a single study based on a theoretical perspective (Dabrowski's) that is flexible enough to incorporate both forms of data.

Definitions

Aronson in the introduction to Dabrowski's (1964) book, discusses the theory's strengths and weaknesses. "The strength of the theory of positive disintegration is in its integration of psychopathology with personality development. Its weakness is in the looseness in definition of its concepts". . . (xxviii). Since 1964 Dabrowski and his colleagues have worked diligently to correct the major fault cited by Aronson. Their efforts have resulted in three publications (Dabrowski et al, 1970; Dabrowski, 1972; Dabrowski, Kawczak, Sochanska, 1973) each of which successively attempts to define more clearly, precisely and operationally the central concepts of this theory.

Many key terms in both Dabrowski's and Cattell's theories have been defined conceptually in Chapters I and II. This chapter will limit itself to those terms considered essential in comprehending the operational definition of "level of development", the central construct (independent variable) under investigation.

Level of Development, Level Index, and Developmental Potential

A person's level of development (there are five levels, see Figure 1 and Table 1) and developmental type (onesided, normal and accelerated) can be determined in a variety of ways. Dabrowski and Piechowski (Note 6) discuss each of three ways in detail; a modified form of Dabrowski's Verbal Stimuli Test will be used in this investigation to collect data to determine each students' level and type of development. An example of a scored protocol for one of the eight verbal stimuli (great sadness) is contained in Table 3. The comments in the right hand column make reference to:

a. Level of development (I, II, III, IV, V) of each numbered response. A response is defined as the smallest amount of material (a sentence or paragraph) which can be evaluated independently of the rest of the test. Each response may receive one or more dynamism, function, and overexcitability ratings.

b. Type of dynamisms and functions displayed. Functions are expressions of behaviour while dynamisms, which shape functions, are Dabrowski's postulated moving forces of development. Each level of development has a different set of dynamisms.

c. Forms of overexcitabilities present, (i.e. emotional o.).

The dynamisms and overexcitability ratings of each response are utilized to determine the Level Index (LI) which depicts the average level of an individual's emotional functioning at the time tested.

TABLE 3

LEVEL, DYNAMISMS AND OVEREXCITABILITY ANALYSIS OF "GREAT SADNESS" VERBAL STIMULI

/To me this has changed over a period of time I used to get depressed when I was really sad and think that life was not worth living./[123]/	123 II-III Reflective sadness: retrospection; emotional o.
I am really sad for example when I see my Father emotionally hurting my Mother and feel that I wish that there was something I could do about it without hurting my Father./[124]/	124 III Empathy: syntony based on reflection emotional o.
I am really sad when I hear from my Mother what kind of life my Father had when he was growing up at his home and I wish that it could have been different for his sake and for that of my Mother./[125]/	125 III-IV Empathy and Inner psychic transformation he shows empathic understanding of the origin of his father's behaviour; he overcame his intense hatred toward him: emotional o.
I was really sad today when I read in the newspaper of a boy who was burned to death with people standing around who could no nothing about it./[126]/	126 III-IV Sadness: existential atttitude of empathy toward the suffering of others; emotional o. imaginational o.
I wish that things like that never had to happen but I am no longer depressed to the point to think that life is no longer worth living like I used to do now I would like to do something about them but do not know what I can do./[127] (Dabrowski, Piechowski, Note 6, p.287)	127 III Empathy with readiness to be helpful; emotional o.

Of the 12 ratings obtained on the five responses identified and evaluated, the results and LI are as follows:

Level (1)	# of ratings (2)	1 x 2
II-III	2	5
III	4	12
III-IV	6	21
	12	38

$LI = \frac{38}{12} = 3.1$

> To obtain the level index the number of ratings in each level category is multiplied by the numerical value of the level: 1.0 for level I, 1.5 for the borderline of level I and II, 2.0 for level II, etc. The sum of these values is divided by the number of the ratings to give the level index. (Dabrowski et al, Note 6, p. 22).

Only two of Dabrowski's eight verbal stimuli were examined in this study, namely, great joy (peak experiences) and great sadness (nadir experiences); according to King (Note 8), the responses to these stimuli provided the richest data in previous studies.

Dabrowski (Note 5) has prepared files of typical responses for each level of development for each of the verbal stimuli. Two raters, trained by Dabrowski, utilized these files in their rating of the peak and nadir protocols. According to Dabrowski a detailed accurate analysis of the level of development of an individual requires a minimum of 100 response units. Peak and nadir protocols were expected to provide far fewer than a hundred response units per individual. Therefore, in this investigation, a participants' level and type of development score can be considered a rough indicator only.

Development potential (DP) is hereditary; it determines the level of development a person can aspire to if the physical, environmental, social and self determining conditions are optimal. According to Piechowski (Note11) DP is not a function of age or intelligence. The presence and strength of a person's DP can be determined as follows:

$$DP = \frac{D + OE}{a} \times 100$$

where "a" is the number of response units, and D and OE are the sum of the frequency of dynamism and overexcitability ratings respectively.

Table 1, developed by Piechowski (Note 11, p.17) shows schematically the conceptual structure of the theory of positive disintegration and its relationship to the operational definition of DP just stated. Stated differently, LI and DP reflect developmental differentiation or complexity. They are the extent to which the subjects' reported peak and nadir experiences manifest richness of behavioural categories, and the various forms of dynamisms and overexcitabilities. "Accelerated development does not denote a rate of change toward completion but rather the greatest extent and depth of transformation of personality structure" (Piechowski, Note 11, p.29).

Level index (LI) scores only were calculated on each participant completing both forms of the 16PF test. The highest LI scores (top 20% of combined peak and nadir LI ratings) comprised the accelerated developers group, the remainder were called normal developers.

Dabrowski and Piechowski (Note 6) in a three year study of over 1,000 students at U of. A concluded that higher level subjects were not readily found; the number of students found displaying accelerated development indicators (dynamisms, various forms of overexcitability) was approximately 15% of the sample. The figure 20% was selected in this study because the characteristics of volunteers described by Rosenthal and Rosnow (1969, pp. 97-98) suggest a probable bias towards study selection of accelerated developers. Further it is believed that the experiential and self-reporting procedure (Appendix B) devised to generate the recall of peak and nadir experiences would improve the quality of the reported data because of the emphasis it placed on the positive aspects of crisis in development.

Questions to be Answered and Related Hypotheses

The purpose of this study was outlined in detail in Chapter I; the five hypotheses evolving from the four general questions the study is concerned with are as follows:

1. What types of nadir or traumatic experiences do students have during their attendance at university and do they perceive these experiences as enhancing, retarding, or having no effect upon their personality development.

Hypothesis #1 - Significantly more accelerated developers will perceive nadir experiences as enhancing personality development than will the normal group. Replies to questions 2 and 4 of appendix D will provide the data needed to test this hypothesis.

2. What types of peak or wonderful experiences do students have, and what is the perceived impact that these experiences have upon personality development.

Hypothesis #2 - The perceived impact of peak experiences upon personality development of the two groups will not differ. Replies to question 1 of appendix D will provide the data to answer this question.

3. Do accelerated developers differ from "normals" on the various dimensions of the Cattell (1972) 16 Personality Factor scale across both test periods.

Hypothesis #3 - Accelerated developers will score significantly lower on Cattell's "H" scale (be more "Shy" and less "Venturesome") and higher on the "O" (less "Placid" and more "Apprehensive"), Q_2 (less "Group Dependent" and more "Self Sufficient"), and Q_4 (less

"Relaxed" and more "Tense") Scales, than will normal developers. These scales were selected over all others for analysis because they were judged to be highly correlated with the dynamisms, overexcitabilities and functions posited by Dabrowski's Theory of Positive Disintegration.

4. Do changes in personality profiles over time, for the two groups, load on different dimensions? In this analysis change will be defined in two ways, as:
   a. Differences between pre- and posttest mean personality profile test scores; and,
   b. Differences between pre- and posttest dispersion or standard deviation scores on the same dimensions for the two groups.

Hypothesis #4 - Mean changes on Cattell's 16 PF "H", "O", "Q_2" and "Q_4" scales for the two groups will not differ significantly from one another.

Hypothesis #5 - Changes in dispersion scores for accelerated developers on the 16 PF "H", "O", "Q_2" and "Q_4" scales will differ significantly from those of normal developers. College impact is expected to have a "homogenization" influence upon normal developers and a "heterogenization" effect upon accelerated developers.

Data Collection Plan and Procedures

The study's sample is described in Chapter IV (pp.71-75). An outline of the study's manner and schedule of data collection follows:

1. Pretest - The Cattell (1972) 16 PF test was administered during the period of November 4th to 8th. Seventy percent of the study participants did the test in class, thirty percent did it outside of class. All subjects were tested under the investigator's supervision.
2. Classification Variable Data Collection - January 20th to the 24th - An experiential/self reporting procedure was devised to generate recall of painful (nadir) and wonderful (peak) experiences. (See Appendix B). The purpose of this experiential design was to provide the set that growth through crises confrontation is not abnormal even though it often appears frightening to the individual. The use of the procedure just outlined was possible for only 60% of the participants whose instructors made classroom time available to do so. This group completed the peak and nadir experiences protocols (See Appendix C) and Study Questionnaire (See Appendix D) in class while the remainder were sent the materials by mail and asked to return the same during the posttesting period (See Appendix E).
3. Posttest - On January 24, 1975 each study participant was informed by letter (See Appendix E) of when (February 3 to 28, 1975) and where to report to complete the 16 PF posttest, and another short Study Questionnaire (See Appendix F).

The amount of time and effort contributed by each student in this study is considered substantial (4 hours). In line with the investigators research philosophy outlined earlier, it was decided that this study had to be a teaching vehicle that was relevant to each student's needs, in addition to being a means of collecting data. This important goal was partially achieved via the procedure outlined in Appendix B, and by promising each student his pretest 16 PF profile. Both of these procedures were designed to enhance self knowledge, in addition to "teaching" about personality development in a personally meaningful way.

The Tests, their Validity and Reliability
and their Scoring

Cattell's Sixteen Personality Factor (16 PF) Test

Forms A and B (1967-68 edition) of the 16 PF were used in this study. Brief descriptions of the 16 personality factors the test claims to measure are contained within Chapter II of this thesis. The 16 PF has been used in hundreds of studies with individuals aged 16 and above; according to Buros (1970) it ranks fifth among the leading personality test instruments in use today.

The 16 PF (Forms A and B) consists of 187 items; only 184 items are scored. The first two items and the last one are buffer or filler items. Each item in the test contributes to the score of one factor only; the test was designed so that each factor is independent of all other factors, thus aiming to keep the correlation across factors low. Scoring can be done by hand using scoring keys, or by computer. Hand scoring was used in this study; the procedure involved in scoring is outlined in detail in Cattell (1972).

Reliability (stability) coefficients in a test-retest situation given a two-month time interval over Forms A and B of the 16PF test range from .63 on the B factor to .88 on the H factor (Cattell, 1972, p.10). The four factors of central importance in this investigation are the H (.88), O (.77), Q_2 (.81) and Q_4 (.78); their appropriate stability coefficients appear in the brackets following the factor label.

Cattell (1972) distinguishes between "construct" validity (evaluated by correlating each 16 PF scale score with the pure factor it was designed to measure) and "concrete" validity (correlations between scale scores and external behavioural criteria). Direct "construct" or concept validities of the 16 PF (Forms A and B) test for the key scales under study are as follows: H (.94), O (.86), Q_2 (.80), Q_4 (.63).

The 16 PF test was selected as the means for studying Dabrowski's level of development construct because of the high stability and validity of its anxiety related concepts. The Verbal Stimuli Test, now to be discussed, is a recent test whose reliability and validity have yet to be satisfactorily determined.

Dabrowski's Verbal Stimuli Test

A person's level of development can be determined in three independent ways: (1) neurological examination, (2) autobiography assessment, and (3) analyses of responses to the Verbal Stimuli Test. The neurological examination, administered by Dabrowski, correlates .85 with the level index scores achieved by the latter methods. These methods were developed by Dabrowski and his colleagues and are discussed in detail in Dabrowski and Piechowski (Note 6).

A modified form of Dabrowski's Verbal Stimuli Test (Short Form) was used in this investigation to determine each students level of development. Dabrowski's test administration procedure is a simple one.

> Please describe freely in relation to each word listed below your emotional associations and experiences. Use as much space as you feel you need.
>
> Great Sadness
> Great Joy
> Death
> Solitude and Loneliness
> Suicide
> Inner Conflict
> Ideal
> Success
>
> (Dabrowski and Piechowski, Note 6,p.25)

The responses to each of the verbal stimuli can be written at home or in the classroom.

Only two of Dabrowski's eight verbal stimuli were examined in this study, namely, great joy (peak experiences) and great sadness (nadir experiences). These two indicators of development, according to King (Note 8), provided some of the richest data (material containing numerous instances of dynamisms and overexcitabilities) in previous studies. The modified verbal stimuli data collection procedures used in this study are outlined in Appendix C.

Content analysis types of procedures used by Dabrowski for classifying, rating, and evaluating each of the verbal stimuli have already been outlined in the definitions section of this chapter. This procedure is essentially the same as Flanagan's (1952) critical incident technique mentioned briefly in Chapter I. Table 3 gives an example of a scored verbal stimuli evaluated in terms of the dynamisms and overexcitabilities it contains, and level index scores assessed. An essential aspect of this form of evaluation is the selection and training of raters, and the determination of inter-rater reliabilities. This important aspect of the study will now be discussed.

Inter-rater Reliability

In this study a critical incident was defined as a reported nadir or peak experience; each was viewed as having behavioural, feeling and thought components. Individual nadir and peak experience protocols were evaluated by two raters independently of one another. Two distinct forms of ratings were completed for each protocol. Protocols were:

1. Classified (Flanagan, 1952; Otke, Note 9) to determine the types of painful and happy experiences students have, and
2. Judged twice - first in terms of Dabrowski's dynamisms and second, in terms of overexcitabilities - to determine each study participants level of development.

The classification procedure used by the raters is described in detail by Otke (Note 9) who has used the critical incident technique in numerous studies during the past 14 years. The procedure includes the following steps:

Step 1. Each individuals protocols were assigned a coding number, 1 for subject one, 2 for subect two . . .; this step aids checking rater differences to be described later.

Step 2. Incidents involving a time when the individual was (a) happy (peak), and (b) unhappy (nadir) were individually examined with the view to grouping them under common category headings to be generated by the sorting procedure. For the first critical incident read a definition was written to encompass the behaviour described and the protocol was then sorted under this category. Thus for a peak type of incident the subject may have reported that he received a 9 on a paper he had researched for many hours in the library. The category definition for this type of response could read "successfully completed classroom work." A second critical incident or behaviour was then examined to ascertain whether it could be sorted under the first category as well. If not, a new category was generated to accommodate the incident in question. This procedure continued until all the incidents were sorted.

Step 3. When the two raters completed the initial sorting of the same 50 protocols the percentage agreement between them was ascertained. Incidents assigned to different categories by raters were earmarked for discussion. Category descriptions were clarified and controversial behaviours sorted according to group concensus. Raters were then given another 50 protocols and asked to sort these. Again percentage agreements were calculated, troublesome behaviours identified, category headings discussed and behaviours sorted according to the group opinion. The designated 80% agreement level on all categories was reached after 100 protocols were sorted by each rater. Once this acceptable level of agreement had been reached, raters proceeded independently with the task of sorting behaviours into categories. Controversial behaviours, were still earmarked for combined rater evaluation and sorting. Steps 1 to 4 took each rater approximately forty hours to complete.

Step 4. When the raters had sorted all the peak experience related behaviours, a final step involved the pooling of categories into one amalgamated category list. This list formed the starting point for sorting all nadir experience related behaviours.

Step 5. To check the accuracy of all the previous ratings, one final step was performed. Each rater examined independently of the other all the behaviours sorted under the generated categories list to determine again whether each incident belonged or should be categorized elsewhere. Misfiled incidents or "change of hearts" were again resorted on a group consensus basis.

Appendix G contains files of typical responses for each level of development for each of the peak and nadir verbal stimuli. The raters, trained in a manner recommended by Spreng and Lai (Note 12) which is essentially the same as the one just described, utilized these files in their rating of each type of protocol. Two readings of each protocol were required before the level index score could be calculated: (1) the first assessed the levels of the functions and dynamisms present; (2) the second identified the various types of overexcitabilities and their various levels.

Inter-rater reliability for determining the individuals' level of development was set at 80% also; the procedure involved in achieving this level was similar to that used in determining the classification categories for peak and nadir experiences.

Bain's Study Questionnaires(1 and 2)

Study Questionnaire (1) contained in Appendix D was administered between the pre and posttest periods, while Appendix F or Study

Questionnaire (2) was given during posttesting. Both questionnaires were designed by the investigator to study student attitudes towards stress, and the part it plays in personality development. Correlational analyses of item scores with one another, and the various dimensions of the 16 PF were performed to test the instrument's validity.

Data Analysis and Research Design

The study undertaken is quasi experimental and correlational in nature. Study participants were all volunteers, and there was no random assignment to groups (normal and accelerated developers).

Questions 1 and 2 posed in the questions and hypotheses section of this chapter concerning the types of peak and nadir experiences students encounter while attending university were answered through critical incident analyses. The categories generated by this procedure are shown in tables showing percentage replies falling in each category.

Whether peak and nadir experiences in normal and accelerated developers enhance, retard or have no impact upon personality development is the concern of hypotheses 1 and 2. The questions implicit to each of these hypotheses will be answered via *t* tests between two means for independent samples (Ferguson, 1966, pp.167-169). Mean scores to questions 1, 2 and 4 of Study Questionnaire (1) for normal and accelerated developer groups provided the data necessary to carry out these analyses.

Questions three and four, and related hypotheses 3, 4 and 5, concerning personality differences between accelerated and normal developers along with changes on these same dimensions over time were answered using a two factor experimental design with repeated measures on one factor (Winer, 1971, pp.514-604). The two factors or independent variables in question are: (1) Groups (normal and accelerated developers) or level of development and (2) time. The dependent variables being studied in this portion of the study are the 16 factors of Cattell's personality inventory. The design here parallels "The Separate-Sample Pretest-Posttest Control Group Design" of Campbell and Stanley (1967, p.55), where "X" is viewed as a naturalistic (non experimental) treatment common to accelerated developers and not to the normal group.

The University of Alberta's IBM 360 computer and the ANOVA 10 and 23 programme packages were utilized in analysing the data related to the hypotheses being studied.

In addition to analyses of variance procedures, correlational analyses were also undertaken. Level of development scores were correlated with 16 PF scores and scores of the Likert type items of the two Study Questionnaires. The Statistical Package for Social Sciences by Nie, Hunt and Hull (1970) was used to present graphically significant relationships found in these analyses.

CHAPTER IV

RESULTS

This chapter begins with an overview of the construct validation procedures used in this investigation and a synopsis of their results. Cronbach and Meehl (1955), in their classic study on construct validity, discuss in detail the following five validation procedures: (1) study of process, (2) group differences, (3) study of change over time, (4) studies of internal structure, and (5) correlation matrices and factor analysis. The first three of these procedures were utilized in tabulating the results of this chapter. Process validation results are contained in Tables 6 and 7. These findings were interpreted as lending strong support to Dabrowski's theory of Positive Disintegration. Hypotheses 1 and 2 findings (Table 8 and Figure 3) indicated that were definite differences between normal and accelerated developers.

Group differences and changes over time implicit to hypotheses 3, 4 and 5 (Tables 11, 12) were not generally supported. According to Cronbach and Meehl (1955, p.288), the stability or instability of test scores (retest consistency, Table 10) may be also a relevant construct validation procedure. A posteriori perusal of the instability of 4 of the 16 PF factors can be interpreted as partial validation of Dabrowski's emotional and intellectual forms of overexcitability.

The Sample

One hundred and thirty-five education students enrolled in either or both Educational Psychology 269 (Development) and Educational Psychology 271 (Learning) volunteered to take part in this investigation after being told about it in class during the last week of October, 1974. Sex, age and college year sample and subsample statistics utilized in the various analyses presented in this chapter are contained in Table 4. Originally it had been intended to analyze sophomore and junior scores separately from those of freshmen, but due to the small number of subjects participating in the study, study attrition and literature review findings, this course of action was rejected in favour of a combined analysis.

Only 93 of the original 135 study participants provided the required classification data; this number was not considered sufficiently large enough to carry out adequately Flanagan's (1952) critical incident analyses of the types of nadir and peak experiences that students encounter. To increase the sample size for this portion of the analyses, students enrolled in Educational Psychology 269 and Psychology 283 (Psychology of the person) were approached during the second semester (February 17-21, 1975) and asked to complete the peak and nadir experience protocols. Eighty additional protocols were completed at this time.

Fifty-eight subjects did not complete the 16PF posttest. The reasons for this attrition were: (1) withdrew from university - 7; (2) moved and couldn't be contacted by letter or phone - 16; (3) asked to withdraw from the study when called - 10; (4) picked up pretest 16PF profile, but couldn't afford the time to do posttest - 10; and (5) those who were sent a follow up letter and called twice and said they would come in but did not - 15.

In quasi experimental and correlational studies utilizing volunteer subjects an important question that needs answering is: To what populations can these findings be generalized? Table 5 compares Cattell's university student population norms to the sample statistics of the present study.

TABLE 4

SAMPLE STATISTICS

Sample in Question	Sex M	Sex F	Age in years	Distribution of Sample by Year 1st	2nd	3rd	4th
1. Subjects completing 16 PF Pretest (N=135)	38	97	19.50	101	24	6	4
2. Subjects completing 16 PF Pretest and Classification Data (N=93)	21	72	19.55	72	14	5	2
a. Normal Developers (N=74)	17	57	19.68	57	10	5	2
b. Accelerated Developers (N=19)	4	15	19.00	15	4	0	0
3. Subjects completing classification data and pre and post 16 PF tests (N=77)	18	59	18.95	60	12	3	2
a. Normal Developers (N=62)	14	48	18.88	48	9	3	2
b. Accelerated Developers (N=15)	4	11	19.20	12	3	0	0
4. Study Dropouts (N=42)	17	25	19.43	32	9	1	0

TABLE 5

Z SCORE COMPARISONS OF UNIVERSITY OF ALBERTA SAMPLE AND CATTELL'S 16PF NORMS - FORM B

	U of A Sample, N=38 Age 20, Male		Cattell's Sample, N=1939 Age 20, Male		Z	U of A Sample, N=97 Age 19, Female		Cattell's Sample, N=1383 Age 20, Female		Z
	Mean	S Dev	Mean	S Dev		Mean	S Dev	Mean	S Dev	
A[a]	10.14	3.03	9.68	4.11	0.69	10.23	3.28	11.14	3.63	-2.46*
B	8.32	1.44	8.49	1.83	-0.57	8.68	1.52	8.49	1.83	1.02
C	14.42	4.46	16.02	4.28	-2.30*	14.87	4.26	15.94	4.17	-2.52*
E	13.74	3.62	13.81	3.94	-0.11	10.38	3.63	10.85	3.93	-1.18
F	16.39	5.22	15.95	4.33	0.63	16.08	4.10	16.27	4.27	-0.44
G	9.74	3.41	12.35	3.33	-4.82**	12.44	2.75	13.46	3.13	-3.20**
H	13.24	5.01	13.66	5.80	-0.45	12.09	5.48	13.43	5.79	-2.28*
I	10.89	3.64	8.78	3.48	3.73**	13.22	3.05	12.78	3.06	1.42
L	8.97	3.38	8.82	2.87	0.32	7.51	2.86	7.82	2.94	-1.02
M	12.42	4.81	12.11	4.32	0.44	13.01	3.45	12.37	4.10	1.52
N	9.53	2.37	9.59	2.74	-0.13	9.59	2.38	10.32	2.59	-2.75**
O	12.61	4.19	10.44	4.90	2.72**	13.43	4.47	11.87	4.77	3.22**
Q1	9.63	3.15	9.73	3.21	-0.19	7.86	2.61	9.25	2.97	-4.60**
Q2	8.95	3.11	7.96	3.49	1.75	8.30	3.98	7.23	3.33	3.17**
Q3	10.05	3.00	10.88	3.32	-1.54	11.10	3.21	10.65	3.53	1.26
Q4	14.58	4.96	12.84	4.72	2.20*	15.43	4.58	14.20	4.87	2.49*

Note: a. Cattell's 16 PF scale descriptions (A, B, C. . .)are listed on page 28.

* $p < .05$
** $p < .01$

The dimensions the two groups do not differ on were viewed as an acceptable basis to make valid inferences.

Sample to population comparisons suggest the U. of A. male sample to be (1) less emotionally stable (more affected by feelings), (2) less conscientious (more expedient), (3) more tenderminded (less self-reliant), (4) more apprehensive (less self-assured), and (5) more tense (less relaxed),than the population norms. Nine of the sixteen female sample to population comparisons were significant. U. of A. girls when compared to Cattell's norms are: (1) less outgoing (more reserved), (2) less emotionally stable (more affected by feelings), (3) less conscientious (more expedient), (4) less venturesome (more shy), (5) less astute (more forthright), (6) more apprehensive (less self-assured), (7) less experimenting (more conservative), (8) more self-sufficient (less group-dependent), and (9) more tense (less relaxed).

The reasons for the differences in the two groups are open to speculation. Cattell's female sample is a year older than the U. of A. one. Cultural factors (Canadian versus American students) could also account for some of the differences. Rosenthal's and Rosnow's (1969) summary of volunteer characteristics also needs to be considered in answering this very important question. The most plausible explanation of the differences can best be understood in relation to the types of peak and nadir experiences students reported to the investigator.

Types of Peak and Nadir Experiences and Hypotheses 1 and 2 Results

Tables 6 and 7 answer the question - What types of nadir and peak experiences do students have during their attendance at university? These tables consist of a thumb nail sketch of the categories generated by the Flanagan (1952) critical incident technique. Interrater reliab-

TABLE 6

TYPES OF NADIR EXPERIENCES

Nadir Categories	f	%
1. Academic disappointments. (1) The first set of examinations resulted in excessive irrational worry and fear in students "either you are going to make it or you are wasting your time" (f=31), (2) Professor/student conflict (f=8), (3) Registration problems (f=4).	43	26
2. Self doubts and identity disintegration. I don't know if I am in the right faculty; I am not as smart as I thought I was; my attitude is all wrong; my morals are changing - is this good, bad ...?	32	19
3. Eros Nadir Experiences. "To know the pain of too much tenderness" -- termination of engagements, boyfriend/girlfriend relationships, and common law affairs.	32	19
4. Dependency and the anguish of rejection. (Poor transition from home to university). I feel alone, homesick, depressed, alienated and inadequate; I haven't been able to make new friends and I miss my old ones.	25	15
5. Role and interpersonal conflict with family, roommates, and friends. My best friend lied to me; the idiosyncrasies of my roommates and vice versa caused conflict until we confronted one another; my parents don't trust me, they treat me like a child.	24	14
6. Death. It made clear my helplessness and made me aware of how I take loved ones for granted.	7	4
7. Miscellaneous Nadir Experiences.	2	1
8. No traumatic experiences. Nothing upsetting has happened to me.	2	1
TOTALS	167[b]	99[a]

Notes: a. Percentage point lost due to rounding errors.

b. The discrepancy between the number of peak and nadir experiences is due to 6 subjects relating more than one peak experience, and 6 others leaving the nadir question blank.

TABLE 7

TYPES OF PEAK EXPERIENCES

Category	f	%
1. *Identify formation, self awareness or finding the "real" me.* I listened to Cat Steven's identity songs; I read Gibran's *The Prophet* - both men moved me to reevaluate old and new values and to know myself better.	40	22
2. *Academic success, and acceptance into university.* Being rewarded (given praise, receiving a good grade for working diligently)gives me a feeling of a sense of accomplishment.	39	21
3. *Deep peer friendship or philia* - Through reciprocal self-disclosure and caring, my friends and I laugh, cry, and discover our true selves.	39	21
4. *Sex, love relationships or eros.* When I am with him/her I am more open and honest; I have a sense of belonging and I feel *totally* fulfilled. Dating, common law relationships, engagements, and marriage incidents comprise this category.	32	17
5. *Becoming independent.* Making the transition from home and family to university has been difficult and traumatic at times, but in retrospect I have discovered "a new world" in taking the step.	15	8
6. *Music Appreciation and artistic endeavour*	7	4
7. *A oneness with nature.* Nature (the beauty of a fall day) touched me; I was so glad to be alive and have all my senses to experience it with. It relaxed me and gave me a feeling of belonging.	6	3
8. *No peak experiences.* I have had no wonderful things happen to me since attending university.	5	3
TOTAL	183	99[a]

Note: a. Percentage point lost due to rounding errors.

ilities within categories across two raters (the investigator and a third year education student) ranged from 81% to 90% agreement. The undergraduate rater was trained in the critical incident technique by the investigator. He was selected as a rater because of the interest he showed in the study, and his close association with the sample of students being studied. It is interesting to note that the five major nadir and peak experience categories are essentially mirror images of one another. The significance of this finding will be discussed in Chapter V.

Hypothesis 1 stated that significantly more accelerated developers would perceive nadir experiences as enhancing personality development than would individuals in the normal group. Questions 2 and 4 of Bain's Study Questionnaire (See Appendix D) read as follows:

2. Nadir or painful experiences, in your estimation, generally

Retard Development   Have no impact on development   Enhance Development

1   2   3   4   5   6   7

4. A profound knowledge of oneself and a deep level of emotional experience, as well as a more meaningful contact with the environment seems to be impossible without going through conflicts, disharmony, intensified sensitivity, and even organic or mental illness

Agree   Uncertain   Disagree

1   2   3   4   5   6   7

These questions, as hypothesized, successfully distinguished accelerated developers from normal ones. Table 8 displays these results and hypothesis 2 findings also.

TABLE 8

THE PERCEIVED IMPACT OF PEAK AND NADIR EXPERIENCES UPON PERSONALITY DEVELOPMENT FOR NORMAL (N=74) AND ACCELERATED (N=19) DEVELOPERS

		Mean Normal D	Mean Accelerated D	S. Dev Normal D	S. Dev Accelerated D	d.f.	t
Question 1 -SQ(1)	Peak	5.90	5.79	0.77	0.98	90	-0.547
Question 2 -SQ(1)	Nadir	4.66	5.68	1.92	1.34	90	2.189*
Question 3 -SQ(1)		4.97	4.42	1.85	1.77	89	-1.163
Question 4 -SQ(1)		2.85	1.84	1.57	1.34	90	-2.561**

*$p < .02$ (one tailed test)

**$p < .01$ (one tailed test)

Hypothesis 2 stated that the perceived impact of peak experiences (question 1 of study questionnaire) upon personality development would not differentiate accelerated developers from normal ones. This hypothesis was also confirmed. Fig.3 is a histogram showing question 1 and 2 responses.

Question 3 of the same questionnaire did not discriminate between normal and accelerated developers. The mean score achieved on question 3 indicates that asking students to recall painful or nadir experiences was not "considered upsetting". The modal reply for this question was 6.

Hypotheses 3, 4, and 5 Findings

Before introducing the results of hypotheses 3, 4, and 5, the investigator will address himself to two problems that may have a bearing on the results of the hypotheses in question. These problems are (1) the effect of selective attrition, and (2) consistency (equivalence) coefficients of the 16PF test.

Campbell and Stanley (1966) see the "experimental mortality, or differential loss of respondents from the comparison groups" (p. 5) as a major source of internal invalidity. This possible selective attrition "can introduce subtle sample biases" (p. 15) similar to the use of non-randomly selected groups already discussed. Table 9, which addresses itself to this very problem, reports the outcomes of a one way analysis of variance comparing pretest means and variances of study dropouts to normal and accelerated developers. Scheffé method of multiple comparisons (Ferguson, 1966, pp. 296-297) was used when a significant over all F warranted it. Three of the sixteen factors significantly discriminated one or more of the groups from one another. Significance ($p < .05$) on Factor M implies that accelerated developers are more imaginative than either normal developers or dropouts from this study. The other two

FIGURE 3

HISTOGRAM DISPLAYING THE PERCEIVED IMPACT OF NADIR (SHADED AREA) AND PEAK EXPERIENCES UPON PERSONALITY DEVELOPMENT (N=172)

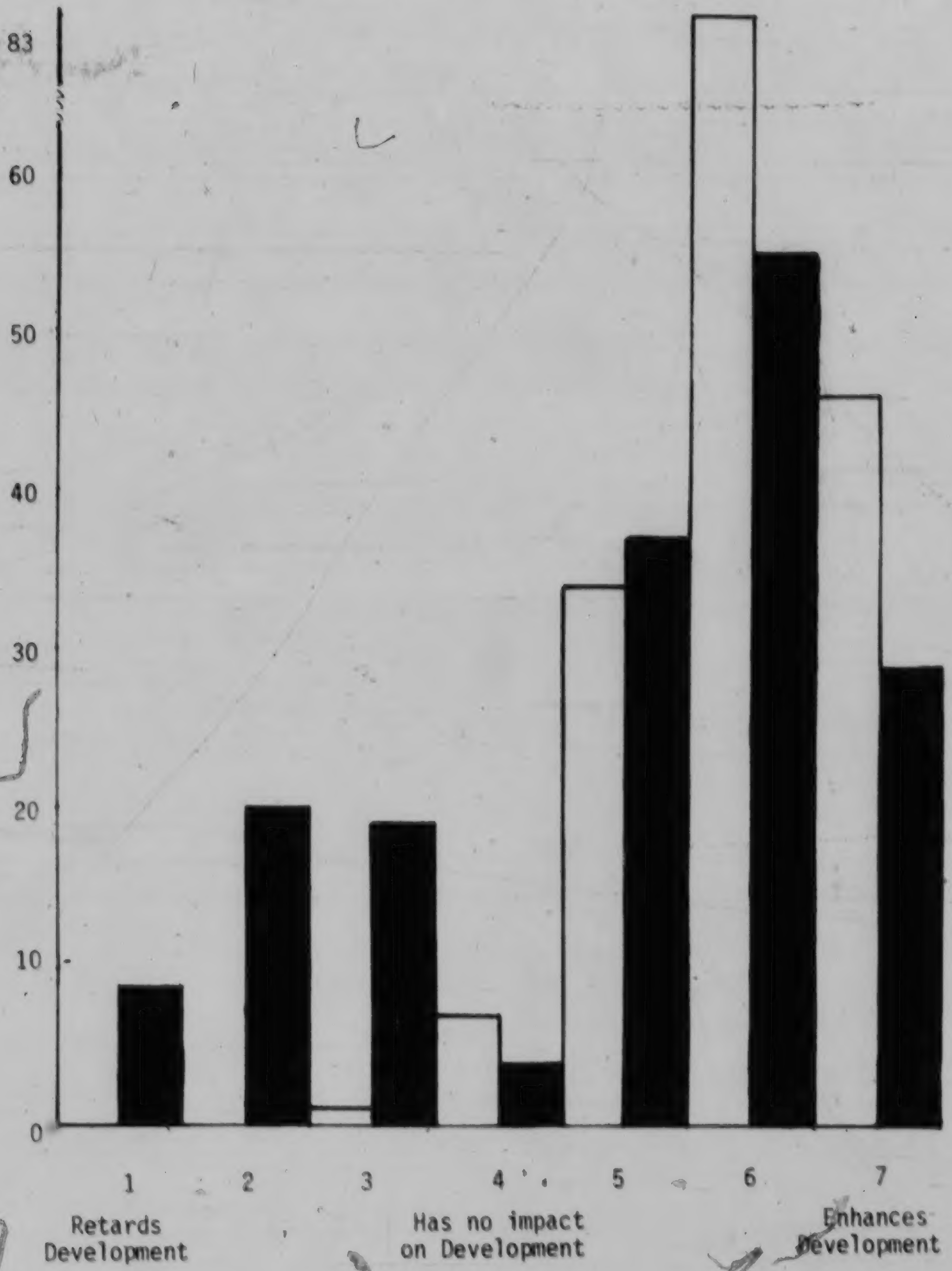


TABLE 9

MEAN SCORES, STANDARD DEVIATION SCORES AND F RATIOS COMPARING NORMAL AND ACCELERATED DEVELOPERS WITH STUDY DROPOUTS ON PRETEST 16PF SCORES

16 PF Factor	Accelerated Developers (N=19) Mean	Accelerated Developers (N=19) S. Dev.	Normals (N=74) Mean	Normals (N=74) S. Dev.	Dropouts (N=42) Mean	Dropouts (N=42) S. Dev.	F (Means)	Chi Sq (Variance)
A	10.21	3.07	10.21	3.56	9.93	2.99	0.11	1.79
B	8.89	1.85	8.60	1.50	8.38	1.32	0.79	2.99
C	14.32	2.71	14.87	4.38	14.71	4.80	0.12	6.80*
E	12.00	3.16	11.34	4.02	11.00	4.07	0.42	1.65
F	15.58	6.10	15.79	4.19	17.09	3.88	1.36	6.25*
G	12.00	3.05	11.76	3.15	11.40	3.33	0.27	0.25
H	12.00	5.14	11.78	5.42	13.69	5.23	1.76	0.11
I	13.32	2.75	12.07	3.45	13.10	3.44	1.81	1.41
L	8.36	2.39	7.64	3.05	8.04	3.59	0.51	3.98
M	15.00	4.32	12.50	3.49	12.47	4.09	3.55*	2.07
N	9.21	2.80	9.69	2.31	9.52	2.30	0.32	1.27
O	13.05	4.38	13.23	4.39	13.21	4.52	0.01	0.05
Q1	9.84	3.27	8.20	2.78	7.95	2.70	3.15*	1.01
Q2	10.00	4.38	8.68	3.79	7.45	3.16	3.34*	1.01
Q3	10.26	2.84	11.16	3.44	10.17	3.21	1.44	3.00
Q4	15.26	4.32	15.28	4.75	15.00	4.83	0.05	0.32

*$P < .05$

factors on which significant differences appeared were the Q_1 (Conservative versus Experimenting) and the Q_2 (Group Dependent versus Self-Sufficient). Scheffé comparisons across groups upon both of these factors indicates that accelerated developers differ significantly from study dropouts. More explicitly, on the Q_1 scale accelerated developers are more experimenting (less conservative) than dropouts; while on the Q_2 scale the latter are more group dependent while accelerated developers are more self-sufficient.

It should also be noted in Table 9 that the homogenity of variance assumption, as tested by chi square analyses between variances, has been violated in two cases - (1) on the C factor (affected by feelings versus emotionally stable) and (2) on the F factor (sober versus happy-go-lucky).

16PF Consistency Coefficients. Table 10 reports consistency (equivalence) coefficients; these were calculated by correlating the results of parallel forms (A with B) of the 16PF test administered to the same groups of subjects on two different occasions. Remarkably different r's were obtained on 5 of the 16 scales: (1) B - less intelligent versus more intelligent, (2) G - expedient versus conscientious, (3) I-tough versus tender-minded, (4) O - self-assured versus apprehensive, and (5) Q_1 - conservative versus experimenting. With the exception of factor Q_1, the remaining four factors in the investigator's sample are more changeable (less stable) than reported in the normative group.

Questions 3 and 4, posed in Chapter III, and related hypotheses 3, 4 and 5 concerning personality differences between accelerated and normal developers along with changes on these same dimensions over time were answered utilizing a two factor experimental design (Groups and Trials) with repeated measures on one factor (Winer, 1971, pp. 514-604).

Table 11 displays the results of these analyses. Hypothesis 3

TABLE 10

CONSISTENCY (EQUIVALENCE) COEFFICIENTS OVER A THREE MONTH PERIOD FOR THE 16PF (FORM A WITH B) - N=77

16PF Factor	Pearson's r[a]	Pearson's r[b]
A	0.69	0.57
B	0.05	0.49
C	0.55	0.54
E	0.52	0.52
F	0.67	0.61
G	0.30	0.47
H	0.67	0.61
I	0.44	0.59
L	0.37	0.37
M	0.38	0.40
N	0.32	0.21
O	0.29	0.59
Q1	0.52	0.34
Q2	0.38	0.39
Q3	0.38	0.43
Q4	0.65	0.62

Notes:

a. Three month interval, N=77 - current study

b. Average time interval not given, N=6476 - Cattell et.al., 1970, p. 33.

TABLE 11

GROUPS (NORMAL AND ACCELERATED DEVELOPERS) BY TRIALS (PRE AND POSTTEST)

AND INTERACTION SCORES ON THE 16PF.

Factor	Normal Developers (N=62) Pretest Mean	Normal Developers (N=62) Posttest Mean	Accelerated Developers (N=15) Pretest Mean	Accelerated Developers (N=15) Posttest Mean	Groups F	Trials F	Group X Trials F
A	10.40	11.15	9.73	9.80	1.15	0.97	0.67
B	8.68	8.87	8.80	9.87	2.62	3.70	1.78
C	14.77	15.24	13.67	14.07	1.14	0.58	0.00
E	11.69	11.89	11.47	10.67	0.44	0.24	0.64
F	16.18	16.05	14.13	15.27	1.25	0.82	1.29
G	11.61	11.34	11.67	11.27	0.00	0.37	0.01
H	12.40	13.00	10.73	11.20	1.53	0.72	0.01
I	12.16	13.29	13.27	14.00	1.27	3.42	0.16
L	7.69	8.18	8.60	8.07	0.28	0.00	0.99
M	12.65	13.77	15.00	15.00	4.02*	0.85	0.85
N	9.60	9.48	9.13	9.93	0.00	0.64	1.13
O	13.19	11.55	13.80	13.53	1.43	1.36	0.71
Q1	8.36	8.47	9.87	9.87	3.30	0.01	0.02
Q2	8.76	9.27	10.87	8.93	0.93	1.33	3.99*
Q3	10.87	11.13	9.80	9.93	2.00	0.13	0.01
Q4	15.26	13.76	15.87	16.27	1.44	0.86	2.56

$^{*}\underline{p} < .05$

declared accelerated developers would score significantly lower on Cattell's H scale, and higher on the O, Q_2 and Q_4 scales. The designated level of confidence ($p<.05$) was not reached on any of these factors, however, the mean scores for the two groups were in the direction hypothesized. One significant group difference was found. Accelerated developers are significantly more imaginative (less practical) than normal developers. This result is possibly indicative of the operation of Dabrowski's imaginative overexcitability in accelerated developers.
It could be equally as well explained by the random chance factor. Out of 16 dependent variables, any one of these variables, probability wise, can be expected to show a significant difference at the .06 level of confidence.

The groups by trials or interaction ratio displayed in Table 11 answers the question - Do the pretest-posttest 16PF mean difference scores of accelerated developers differ from those of normal developers? Hypothesis 4 stated there would be no significant interaction effects on the H, I, Q_2 and Q_4 16PF scales; this hypothesis was partially confirmed. A significant interaction effect ($p<.05$) was found on the Q_2 scale. Over time accelerated developers, who were more self-sufficient than normal developers to begin with, became more group dependent and vice versa.

The Trials F ratio asks the question - Do pretest scores of both normal and accelerated developers when averaged together differ significantly from posttest weighted mean scores across the groups? No significant trials effects were found.

Hypothesis 5, related to changes in dispersion scores for accelerated and normal developers, predicted that college impact would have a heterogenization effect upon the former group, and a homogenization effect upon normal developers. Table 12 reports t tests of significance between the various correlated variances (Ferguson, 1966, pp. 183-184). One significant relationship was found: normal developers factor O (Self-assured versus Apprehensive) dispersion scores increased significantly over time suggesting college impact had a "heterogenization" effect upon them. This finding was opposite to what was hypothesized.

Additional Findings

Male/female differences on the 16PF. While calculating sample normative data, a t-test of significance (Ferguson, 1966, pp. 167-169) between independent samples was run to see if there were any 16PF differences between the scores. Five significant relationships were found: (1) the males were more assertive, the females more humble ($p<.0001$); (2) the females were more conscientious, the males more expedient ($p<.0001$); (3) the male students were more tough-minded, the females more tender-minded ($p<.0001$); (4) the females were more trusting, the males more suspicious ($p<.02$); and (5) the males were more experimenting, the females more conservative ($p<.01$).

Study questionnaire 1 and 2 findings. The results of questions 1 to 4 of Study Questionnaire (1) have already been reported in Table 8. Table 13 reports the results of the perceived impact of other aspects of university life upon students who completed both the 16PF pretest and

TABLE 12

TESTS OF SIGNIFICANCE BETWEEN CORRELATED VARIANCES

16PF Factor	Accelerated (N=15)		t-(df = 13)	Normal (N=62)		t-(df = 60)
	Pre	Post		Pre	Post	
A	2.77	3.94	2.04	3.48	3.60	0.37
B	1.90	1.15	-1.91	1.57	1.72	0.68
C.	2.49	2.08	-0.70	4.48	4.50	0.03
E	2.50	4.16	2.13	4.19	4.83	1.30
F	5.41	4.48	-1.00	4.58	4.75	0.37
G	3.09	3.68	0.65	3.11	3.27	0.40
H	4.78	5.13	0.36	5.17	5.52	0.69
I	2.87	2.37	-0.76	3.29	3.49	0.50
L	2.28	2.82	0.79	3.10	3.42	0.81
M.	4.49	4.12	-0.41	3.45	3.67	0.48
N	2.92	3.11	0.25	2.28	2.55	0.90
O	4.31	4.33	0.02	4.14	5.28	2.04*
Q_1	2.58	3.42	1.06	3.00	3.45	1.21
Q_2	4.19	4.06	-0.12	3.80	3.59	-0.48
Q_3	2.66	3.43	0.93	3.39	3.35	-0.10
Q_4	3.86	3.17	-0.75	4.95	5.41	0.97

*$p < .05$

TABLE 13

THE PERCEIVED IMPACT OF OTHER ASPECTS OF UNIVERSITY LIFE UPON NORMAL AND ACCELERATED DEVELOPERS

Variable	Mean Normal D	Mean Accelerated D	S. Dev. Normal D	S. Dev. Accelerated D	d.f.	t.
SQ(2) 2	2.72	3.06	1.45	2.13	80	0.779
3	3.72	4.16	1.64	1.80	81	1.003
4	4.70	5.42	1.71	1.39	81	1.675*
5	5.92	5.58	1.43	1.68	81	-0.882
6	1.41	1.42	0.66	1.02	81	0.075

*$p < .05$ (one tailed)

classification data. Appendices D and F contain copies of Study Questionnaires 1 and 2 respectively; upon each of these questionnaire is superimposed percentage calculations for each category of each question for the total group of 173 subjects that completed or partially completed these questionnaires.

Correlational Analyses: Cronbach and Meehl (1955) point out that "a matrix of intercorrelations often point out profitable ways of dividing a construct into more meaningful parts" (p.287). Tables 5 and 9 suggest that the range of scores used in calculating the Pearson r's in Table 14 has been restricted because of the non-representativeness of the sample and the effect of selective attrition. The impact these factors have on the correlation coefficients in Table 14 is to lower them. These facts make it difficult to draw any meaningful conclusions with regard to the construct in question in the population at large.

TABLE 14

SIGNIFICANCE OF CORRELATION COEFFICIENTS (H: p=0) BETWEEN SELECTED STUDY QUESTIONNAIRE ITEMS AND 16PF SCORES (POSTTEST)

Variable	Level Index	Study Questionnaire Items					
Variable	(LI)	SQ(1)-2	SQ(1)-3	SQ(1)-4	SQ(2)-2	SQ(2)-4	SQ(2)-5
16PF -C	.05	.32**	.04	.27*	-.05	-.15	.24*
-G	.04	-.07	.02	.18	-.15	-.02	.08
-H	-.07	.07	-.01	.03	-.05	-.34**	.02
-I	.24*	-.04	-.12	-.19	-.02	-.02	.01
-L	-.05	-.16	-.04	-.23*	-.09	.10	-.12
-M	.30**	.36**	.15	-.27*	.02	-.01	.09
N	-.03	-.04	.01	.10	-.04	.02	.09
O	-.03	-.24*	-.18	-.25*	.02	.36**	-.14
Q_1	.10	.12	.05	-.35**	.22*	.18	.11
Q_2	.20	.20	-.01	-.16	.14	.16	.07
Q_4	-.01	-.20	-.07	-.28**	.00	.34**	-.19
LI	--	.25*	-.14	-.19	.05	.19	-.03
SQ(1)-2		--	.36**	.07	.15	.05	.33**
3			--	.01	.22*	-.09	.11
4				--	-.01	-.46***	.05
SQ(2)-2					--	.13	.21
4						--	.07
5							--

*p<.05
**p<.01
***p<.001

CHAPTER V

DISCUSSION, IMPLICATIONS AND CONCLUSION

Discussion

The University of Alberta "Report of the Committee to Study Student Stress" placed considerable importance upon increasing our knowledge about (1) the "maturational pressures facing students generally" and (2) "the personality make up of the University body" (p.6). Both of these concerns were addressed in this construct validity investigation.

Process and Group Differences Validation - Hypotheses 1 and 2 Findings.

According to Cronbach and Meehl (1955) "one of the best ways of determining informally what accounts for variability on a test is the observation of the person's process of performance." (p.289). Tables 6 and 7 reflect the nature of this process, as do the answers to the questions contained in Study Questionnaires 1 and 2. These findings were interpreted as providing process and group validation of Dabrowski's level of development construct.

Based on the assumption that personality development is a function of ones failures and anguishes as well as ones joys and satisfactions, this study set out to determine the types of nadir and peak experiences that undergraduate university students have. The Flanagan critical incident analyses of the 173 or so protocols collected uncovered an interesting paradox - that the kinds of events and happenings associated with university life that bring the most joy (ecstacy) also bring the most sorrow (agony). A perusal of Tables 6 and 7 will show that the top five peak and nadir experiences categories,which account for over 90% of the incidents collected,are virtually mirror images of one another! The following statements by two different individuals illustrate some of the maturational pressures encountered and their paradoxical nature.

> Here follows an attempt at describing the way I sometimes feel in the midst of University life.
>
> I seem to have lost the words . . . loneliness? despair? frustration? But they do not really matter anymore, anyway. Words cannot describe emotions, feelings. I cannot tell you how if "feels" to be among so many thousands of faces and not meet the eyes of one. I cannot tell you how it "feels" to be drowning in a sea of people, bodies, words, "intellectualism", and the cacauphonous sounds of . . . life? Is it me? Am I the one, am I not trying hard enough to find someone who is human, someone who cares? Its been a long time since my thoughts have been touched by someone else's. If living can't involve people, thinking, laughing, feeling . . . people, then its time for me to step out. But I won't. Because I know there are people, maybe a long time from here, but there are people, who can laugh and weep, and touch your thoughts with theirs . . .
>
> Probably the most striking experience I have had since coming to university was initiation into the fraternity I joined. Most people think of initiation as being just a lot of hazing. Its a lot more than that though. What little hazing there is has a purpose, and at the end seems very insignificant. Initiation is an extremely emotional experience. Some people actually break down and cry, not from fear or pain, but from feeling of intense joy or sadness. It involves a lot of deep thinking, perhaps more than I have ever done at one time before. It brings the people being initiated extremely close together. It is probably one of the greatest things which has happened to me in my entire life.

The entire month of February and many hours in March were devoted to talking, informally,to study participants about the impact they perceived university was having upon their lives. Eighty-seven students contacted the investigator during this period to receive their 16 PF pretest results; 77 of these completed a posttesting on the 16 PF as well. The depth of self-disclosure and honesty encountered during these conversations of approximately 30 minutes duration each, is difficult to reiterate here. Appendix H contains examples of actual peak and nadir experience protocols collected. They are arranged according to the categories generated by the critical incident technique. Their content reflects the themes these 87 students wanted to discuss, as well as the process of their maturation.

According to King (Note 8), population level index scores take the following distribution: Level I-60%, Level II-25%, Level III-7%, Level IV-7%, Level V-1%. The average level index score for accelerated developers in this study was 2.55 (standard deviation .15), while the level index score of the normal group was 1.96 (.30). Dabrowski and Piechowski (Note 6), in their three year study of over 1,000 students attending University of Alberta, found student level index scores averaged out at Level II. They also concluded that the number of students found displaying accelerated development indicators was approximately 15% of the sample. The findings of this investigation parallel Dabrowski and Piechowski's results remarkably well. A review of the characteristics of individuals at Levels I, II and III (see pp.22-24), and consideration of these characteristics in regard to the types of peak and nadir experiences found in this study, lends strong heuristic support to the following Dabrowski et al (1970) hypotheses restated from Chapter I.

1. A high threshold of resistance to frustration correlates negatively and a low threshold correlates positively with later transitions to higher phases of development. (p.151).

> 2. Nervousness, neuroses, psychoneuroses and the so-called educational difficulties accelerate the development and increase its many sidedness. (p.152).

Chapter II presented an extensive literature review of adolescent development, crises theory, and conflicting issues within the area. The question - When does disintegration (which is accompanied by high levels of anxiety) lead to maturity and accelerated development, and when does it fail to do so? - was partially answered by hypotheses 1 and 2 findings. Accelerated developers perceived nadir experiences as enhancing their development significantly more than normal developers. This finding reflects the positive attitudes accelerated developers have towards such level III dynamisms as positive maladjustment, feelings of shame and guilt, hierarchization, and dissatisfaction with oneself. An existential, growth enhancing anxiety with its basis in emotional, intellectual and imaginative forms of overexcitability is prevalent in accelerated developers, and almost non-existent in the normal developer group. Both groups perceived peak experiences as having a beneficial impact upon their development (See Table 8 and Figure 3).

The impact students perceive that university has on their development in general,and the importance of peak and nadir experiences upon the same,was the purpose for designing and administering Study Questionnaires 1 and 2 (See Appendices D and F).

To the statement - "Life at university should contribute to my growth and development as a person" - there was almost total agreement (97% in the affirmative). The impact of peak and nadir experiences upon development was almost as conclusive. Ninety-six per cent of the sample percieved peak experiences as enhancing development, while 71% viewed nadir experiences in the same regard. It is interesting to note that the nadir experience question produced a bimodal distribution with 28% of the subjects viewing them as retarding development. Question four of the Study Questionnaire (1) was similar to the nadir question; its findings paralleled the nadir results, but were a little less conclusive. The question which read - "A profound knowledge of oneself and a deep level of emotional experience, as well as a more meaningful contact with the environment seems to be impossible without going through conflicts, disharmony, intensified sensitivity and even organic or mental illness" (Dabrowski,1972, p.1), resulted in 71% agreeing, 10% undecided, and 18% disagreeing. The 10% undecided suggests that the length of the item may have made it more ambiguous than the shorter nadir experience question, thus lowering its reliability and thus its validity. It is worthwhile noting that on a half dozen or so questionnaires the term mental illness was circled, underlined, or had a question mark beside it. This phrase also could account for the 10% undecided responses.

The literature review in Chapter II uncovered three major correlates of personality development, namely (1) anxiety, (2) challenge, and (3) self-determination. Questions 2 to 5 of Study Questionnaire 2 were designed to parallel some of these correlates. The question - "Life at university should be stimulating, and it cannot be stimulating without being stressful" - produced the following results:

	Strongly agree		I am not sure		Strongly Disagree	
1(11%)	2(13%)	3(25%)	4(14%)	5(15%)	6(17%)	7(5%)

Fifty-four per cent of the replies center around the "I am not sure" area. According to Dabrowski,authentic education can and should be a stimulating, stressful and growth producing experience. The uncertainty reflected in the answers to this question are worth considering in relation to the thesis that optimum or accelerated development occurs when stress is great enough to challenge previous modes of adaptation, but not so great as to induce extreme neurotic or psychotic (level II) anxiety. Both existential,growth enhancing anxiety and neurotic anxiety related themes are common in the peak and nadir protocols. Level II development is characterized by ambivalent feelings; the replies to this question are viewed as consistent with Dabrowski's theory.

Life at university is not free of stress. Seventy per cent of the subjects disagreed with the statement that "life at university and classroom assignments impose little strain upon me." Further, there was 87% agreement to the statement that "This year, thus far, has resulted in my questioning many previous beliefs, values, and attitudes that I never questioned prior to attending university."

The dynamics of what is happening in the accelerated developer sample of University of Alberta students studied here is best summarized by Soren Kierkegaard's classic statement presented in Chapter I and again now "To venture causes anxiety, but not to venture is to lose one's self. . . and to venture is to precisely become conscious of one's self."

Studies of Change over Occasions Validation - Hypotheses 3, 4, and 5

Both Cattell's and Dabrowski's theories place considerable importance upon the concept of anxiety. Cattell's 16 PF test has embedded within it a 40 item anxiety scale; it was mainly on the basis of the subscales containing these items that the construct validity of Dabrowski's concept of accelerated development was tested. Accelerated developers were distinguished from normal ones on the basis of their level index scores calculated from a modified form of the Verbal Stimuli Test.

The level index scores and 16 PF comparisons implicit to hypotheses 3 and 5 were not supported. An unexpected hypothesis 5 finding was that the variance on the O factor for normal developers increased significantly ($p<.05$) over time suggesting college impact had a "heterogenization" effect upon them. A plausible explaination for this finding is that normal developers are more reactive to situational or state anxiety than accelerated developers.

Hypothesis 4 was partially confirmed. Mean changes for the two groups on the H, O and Q_4 scales did not differ, as expected. However,a significant interaction effect was found on the Q_2 scale; over time accelerated developers, who were more self-sufficient than normal developers to begin with, became more group dependent and vice versa.

Are there any plausible explanations to account for the non-significant findings? Hypothesis 3 stated that accelerated developers would score significantly lower on Cattell's H scale (be more shy and less venturesome) and higher on the O (less placid and more apprehensive), Q_2 (less group dependent and more self-sufficient), and Q_4 (less relaxed and more tense) scales, than would normal developers. None of these hypothesized differences were found significant ($p < .05$), yet the mean scores for the two groups were in the direction hypothesized. Close scrutiny of Table 5 provides a plausible explanation for hypothesis 3 results - the female study participants differed significantly from the normative samples on the H, O, Q_2 and Q_4 factors while the males did so on the O, and Q_4 scales. Each of these differences were in the direction that made it more difficult to find significance in the hypotheses being considered. More explicitly, both the male and female samples scored significantly higher on the O scale (were more apprehensive) than Cattell's normative group. This being the case, suggests that volunteers' level index scores in this study would be higher than in the normative population, and thus make it less likely to find a significant difference between accelerated and normal developers as hypothesized.

The same sample to population dynamics also operate in hypotheses 4 and 5 (Tables 11 and 12), and thus influence these results in parallel sorts of ways. The nonsignificant trials effect on the O factor suggests another hypothesis concerning the part situational anxiety plays in making the transition from high school to university. Table 11 indicates that the pretest scores of both normal and accelerated developers when averaged together on the O factor drop, but not significantly from the posttest weighted means for the same groups. This finding is interesting in light or previous studies by Bain (Notes 1 and 2), Feldman and Newcomb (1969), and Nichols (1967). Bain found Factor O scores increased significantly ($p < .01$) from the beginning of the freshman year to the beginning of the sophomore year, and persisted at a high level during the sophomore year until the beginning of the junior year. How can this marked discrepancy between University of Alberta students and the Bain sample be explained? Feldman and Newcomb (1969) found that small,residential,4-year colleges provide the best opportunity for campus wide impacts. Further, Nichols found that scores on the anxiety (O) factor increased at colleges which emphasize science and engineering curriculums. The Royal Military College, where the Bain study was conducted, is mainly an engineering school in addition to being a small residential college. Last of all, pretest 16 PF administrations in this study were completed during the first week in November,and posttesting was done from February 3 to 28, 1975. Had the test adminstrations been done in early September and late March,the outcomes may have been quite different.

Based on the assumption that sample bias may have weakened the statistical analyses in hypotheses 3, 4 and 5, other significant findings over and above those hypothesized will be briefly mentioned. It must be recognized that these findings could be equally as well explained by the operation of a statistical random chance factor. Table 9 uncovered an interesting experimental mortality finding. Scheffé comparisons across groups on the "M" factor indicate accelerated developers are more imaginative (less practical) than either dropouts from this study or normal developers. Cattell's et al (1970, pp. 98-99) description of this factor along with a perusal of items comprising this scale suggest that the "M" factor is indicative of the operation of Dabrowski's imaginative form of overexcitability in accelerated developers. "Essentially the M+ person has an intense subjectivity and inner mental life" (p.98). According to Cattell, a highly imaginative person is also characterized by "internally autonomous thinking", which the investigator views as similar to Dabrowski's third or self-determining factor of development.

Further Table 9 significant differences appeared on the Q_1 and Q_2 factors. Both of these traits differentiated the accelerated developer from the study dropout, with the latter's scores suggesting that he is more conservative (less experimenting) and more group dependent (less self-sufficient). Table 11's significant interaction effect on the Q_2 factor is viewed as a measure of the socializing impact of the peer culture. According to Cattell et al (1970) "at school, Q_2 + (self-sufficient) children prove commonly to have been decidedly on the seclusive side - early developers who tend to associate with a few older friends" (p.105). The investigator examined each item of the Q_2 scale from a Dabrowski frame of reference and concluded that the Q_2 + person would be more self-determining and autonomous. Table 11 results indicate that over time accelerated developers, who were more self-sufficient than the normal developers to begin with, became more group dependent and vice versa. Is this the kind of impact universities should have?

In Chapter II (p. 27) the investigator points out Cattell's distinction between state and trait. Table 10, which compares Cattell's and this investigation's consistency (equivalence) coefficients with one another, clearly suggests that factors B, G, I and O are state and not trait indicators. The substantially lower consistency coefficients on these very factors imply that the investigator's sample is more changeable (less stable) than the normative group. It follows from a Dabrowski frame of reference, that this study's sample has greater potential for growth and development, because the instability in the four factors just mentioned imply the operation of intellectual and emotional forms of overexcitability.

Implications

This study posed four questions and five related hypotheses. Their purpose was to determine the construct validity of Dabrowski's theory of Positive Disintegration in general, and his level of development construct in particular. The answers to questions 1 and 2 concerning the types of peak and nadir experiences students encounter while attending university, and the outcomes of hypotheses 1 and 2 concerning the perceived impact of peak and nadir experiences upon personality development were confirmed. These findings were interpreted as providing process and group validation of Dabrowski's theory.

Questions 3 and 4, and their related hypotheses 3, 4 and 5, concerning personality differences between accelerated and normal developers, along with changes on the same dimensions over time were not generally supported. A plausible explanation for this unexpected finding was offered. Sample and normative 16 PF comparisons indicated definite sample bias in a direction that would make the .05 level of confidence more difficult to attain. A rival hypothesis is that the 16 PF H, O, Q_2 and Q_4 scales are not related to Dabrowski's construct. A remark of Cronbach and Meehl (1955) is relevant in this regard "If the obtained correlation departs from the expectation, however, there is no way to know whether the fault lies in test A, test B, or the formulation of the construct." (p.14). Hypotheses 1 and 2 findings, and the process validation results suggest that the Dabrowski construct has some merit. Therefore, it must be concluded that mean scores on the 16 PF scales in question don't differentiate accelerated developers from normal ones.

Cattell's distinction between state and trait discussed in Chapter II does seem to have some merit in relation to construct in question. Dabrowski's theory suggests that test - retest correlation coefficients displaying low stability are probably related to the operation of various forms of overexcitabilities and related dynamisms. Factors B, G, I and O test - retest correlations were substantially lower than those reported by Cattell.

Behavioural, psychoanalytic, and existential based theories each consider anxiety from a different frame of reference. Cattell et al (1970) believes "the time is ripe for experimental research to check the causal connections in these theories" (p.118). Further, Cattell believes that additional research into his second-stratum factor entitled "Adjustment versus Anxiety" will clarify these causal connections. "It [the adjustment versus anxiety factor] has been shown to rise with anxiety stimuli . . . and decline with therapy . . . In itself, it is not to be considered pathological and may be high in normal persons and low in psychotics, though it is usually very high in neurotics." (p.118). The relationship between level of tension and type of anxiety to personality adjustment theory is poorly understood! Clarification of the factors related to this issue in future research is of the utmost importance. The construct validation study reported here suggests Dabrowski's theory of Positive Disintegration can be useful in sorting out the many issues involved.

Student development is viewed by Dabrowski to be a product of three interacting factors, namely (1) heredity,(2) environment, and (3) autonomous or self-determining factor.

Dabrowski's views on mental health emphasize that optimum or accelerated development occurs when stress is great enough to challenge and change previous modes of adaptation, but not so great as to induce extreme neurotic or psychotic types of anxiety. Existential anxiety, psychoneuroses, and nervousness in general heighten the impact that peak and nadir experiences have upon our lives. Implicit to this view of mental health is a tension seeking or self-transcendence model of man. Far too much emphasis in the past has been placed upon the cognitive domain in explaining man's development. Dabrowski believes, and the outcomes of this investigation support this view, that the imaginative and affective domains are equally important in understanding man's development and his psychic life.

The intellectual and emotionally volatile existence of the university student can enhance, retard or deflect the following: self knowledge, creative expression, and personality development. Freedman (1967) expressed a very real concern that universities may be imposing too little strain on its students, with the end product being a "personality that is stable and integrated but lacking in depth and complexity" (p.56). The results of this investigation agree with Freedman's statement concerning the end product. It does not agree with the statement that "universities may be imposing too little strain."

A perusal of the types of peak and nadir experiences encountered at University of Alberta, along with the results of the personality and study questionnaire data collected, agree with the findings of the University of Alberta report on student stress. Students concern about the amount of stress they encounter is legitimate; mind you, much of the anxiety is situationally based and state related. More specifically, the academic disappointments nadir experience category which accounted for 26% of the nadir replies, displayed both growth enhancing and retarding themes. May (1967) captures the essence of the anti-growth component, "this emphasis upon piling fact upon fact in itself undermines the experience of identity of the student, and is a prime cause of [extreme neurotic] anxiety" (p.40).

What kinds of anxiety are universities engendering within their students,and students within themselves? If it is mainly existentially, growth enhancing anxiety, then Sanford's (1967) position is understandable: "Thus the goals of 'adjustment', 'stability' and 'peace of mind' - if these terms refer to a general state of freedom from tension - are fundamentally incompatible with the goals of development . . ." (p.50). Why can't students actualize the potential that exists within them?

Katz (1968, pp. 1-2) concluded from his idiographic and nomothetic studies of personality development in university students , that their ability to further their own happiness through transformation of their life style is not in a particularly advanced state. Dabrowski and Piechowski (Note 6) found the same to be true of the University of Alberta students. This investigation concurrs with the Katz and Dabrowski findings.

These results suggest that student behaviour is basically second factor or environmentally determined. This factor is sufficient to bring about normal development - but is this enough? Shouldn't universities attempt to facilitate accelerated development in its leaders of tomorrow? The driving force behind accelerated development, namely, the self-determining or autonomous factor, appears to be inoperative in most students! Future research must address itself to finding ways to facilitate this very important factor.

Conclusion - Study Limitations

The "Personal Knowledge" paradigm of Polanyi (1958), and the well established positivistic and deterministic model adapted from the natural sciences were viewed as complementary to one another in this investigator's attempt to understand the impact university has upon a student's personality. Allport (1968) has stressed, time and time again, that the application of rigid scientific procedures of explanation, prediction and control can be achieved both idiographically and nomothetically. Page 55, of this dissertation, outlines more explicitly Allport's contribution to the methodology in this regard. A satisfactory marriage of the personal knowledge and positivistic paradigms may not be possible!

Polanyi believes that only a portion of man's behavior is observable and predictable, and can be studied objectively; true understanding of man, in the process of becoming, can only be ascertained by dwelling in oneself and another in a subjective, I - Thou sense. Both Dabrowski and Polanyi believe that all researchers are both participant and observer in their own philosophical and methodological systems. Hence, the system changes as it is studied and because it is studied. Contrary to this position is the behaviorist view and Cattell's factor analytic approach; these positions attempt to exclude subjectivity in the interest of being completely objective.

Dabrowski's level of development construct was the central focus in this study. Dabrowski (Note 6) makes the assumption that a student cannot represent himself in his responses to the Verbal Stimuli Test at a level higher than his actual level of development. This assumption must be questioned. For example, a person who reads Moustakas' (1967) book Loneliness would surely provide a richer response to the great sadness or loneliness verbal stimuli than would someone who did not do the same, and thus enhance his level index score. Extremely anxious people experience difficulty responding to emotionally charged verbal stimuli. Defensive blocking could easily result because of this phenomena. In this case, a very sensitive, potentially high level type of person could provide a "rater assessed" low level response.

Piechowski (Note 11) offers a major criticism of his own theoretical and empirical study of Dabrowski's work, which is equally valid in this study. In his discussion of the reliability of the Verbal Stimuli Test, he mentions the necessity of longitudinal studies and blind rating of verbal stimuli items by raters without knowledge of the theory. "At present the rating process demands a thorough working knowledge of the whole theory, a task too complex for ordinary training of raters" (p. 49).

Two final study limitations include (1) the disproportionate number of female volunteers (N = 97) to male subjects (N = 38), and (2) the short time interval of three months between pre and posttest measures. Ideally, to obtain an accurate measure of the impact of university upon student personalities, the 16PF test should have been administered to students upon their arrival at university in September, and just prior to their final examinations in April. The limitations, just cited, merit close attention in future theoretical and empirical studies.

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APPENDIX A

HANDOUT FOR STUDY PARTICIPANTS

HANDOUT FOR STUDY PARTICIPANTS

Title: Changes in Personality during the Freshman Year

Introduction

The purpose of this study is to determine the importance of personal crises in the personality development of first year university students. To grow and mature means to change from what one has been, and the rapid change that occurs, especially during the first year, is naturally upsetting and often accompanied by high levels of anxiety. Many researchers believe that the study of student reports on their most traumatic and happy experiences will tell us a great deal about developmental crises. I also believe this is true.

Questions to be answered by the Study

1. What types of painful and happy experiences do students have while attending university, and do these happenings enhance, retard, or have no effect upon personality development.
2. Do changes in personality for individual students differ depending upon the type of painful and happy experiences that they encounter.

What Can you learn from this Study?

1. I hope I can assist you in gaining some insights into your own personality by:
    a. Providing you with a scored personality profile, and
    b. Providing you with a very interesting and informative classroom presentation geared to your needs as a developing person.

Data Collection Procedure

1. First Personality Testing Period
    a. When: Monday, 4 November until Friday, 8 November, 1974.
    b. Where: Go to the Ed. Psy.Test Library (6-106) on the sixth floor of the New Education Building during the hours 8.30 - 12.00; 1.00 - 4.30.
    c. How: The test can be completed in about 50 minutes. Myself or the test librarian (Mrs.Nastajus) will be on hand to answer any questions you may have.
2. Collection of painful and happy experiences protocols

    This will be accomplished during January, hopefully during one of your Ed. Psy. 269 classes, or by other means acceptable to you.
3. Post-testing
    a. When: Monday, 3 February until 7 February, 1975. The procedure is the same as the above. Upon completion of this testing I will gladly meet with you to talk about the profile of your earlier test.

Sincerely
Earle Bain
Earle Bain

Office 6-101
Phones: 432-5807
or 434-4082

APPENDIX B

THE CAMPUS: COMING OF AGE AT COLLEGE ASSIGNMENT

THE CAMPUS: COMING OF AGE AT COLLEGE ASSIGNMENT

The Madison article attached (Madison, 1971) talks about "intimate accounts of self-adjustment in sexual, social and career crises." During the next five years of your life, there will be numerous and increasing demands and restrictions both from within and without which will complicate your struggle to find yourself and your role in life. Some of the pressures include breaking emotional ties with the family, indecisiveness concerning occupational choice, and adjusting to university life.

I would like you to read, ponder, and digest the attached article and come to class prepared to share anonymously one personal experience triggered during your reading. Anonymity will be maintained by having each one of you print your experience on a 5" x 7" filing card prior to coming to class. During class these cards will be gathered, shuffled, and read out loud, one after another. Finally, your instructor will elicit the reactions of the members of the class to what they have heard.

There is usually a wide variety of responses, from "I am homesick here at U of A" to "I am terribly shy, and feel inadequate when I compare my experiences with girls to the other guys during locker room 'bull' sessions."

The effect of this exercise on class members is often quite striking. Some, for the first time, realize that there are others, many others, who have problems, thoughts, and views similar to theirs!

APPENDIX C

NADIR AND PEAK EXPERIENCE
VERBAL STIMULI QUESTIONS

Name:
Age:
Year at University

Unhappy (Nadir) Experiences

I would like you to think of the most trying or anxiety producing experience or experiences since your arrival at University. These incidents may have been the most unhappy, hurtful, and traumatic moments in your entire life. These anxiety and personal crises occur in most university students and often revolve around sexual, social, career and academic choices and adjustments.

Now think of just one of these experiences, the most EMOTIONALLY intense one, and please respond to the following:

a. Describe the experience in question as you would to someone you respect and you know would understand. Give details of when and where it happened, who was involved (use fake names if you wish), and any other details you feel are relevant.

b. Describe the impact the experience had on your
   (1) Behaviour (what did you do?)
   (2) Feelings, and
   (3) Thoughts (what did you think about) at the time of its happening and now.

c. What has this experience meant to you in relation to your development as a person? What impact, if any, has it had on your life goals, and the type of person you would like to be.

Please answer on the reverse side of this paper. Thank you.

Name:
Age:
Year at University:

Wonderful Experiences

I would like you to "think of the most wonderful experience or experiences of your university life; happiest moments, ecstatic moments, moments of rapture, perhaps from being in love, or from listening to music or suddenly "being hit" by a book or painting, or from some great creative moment." [Maslow, 1968, p. 71] [a.]

Now focus in on just one of these wonderful experiences the most EMOTIONALLY intense one, and please respond to the following:

a. Describe the experience in question, as you would to someone you respect and you know would understand. Give details of when and where it happened, who was involved, and any other details you feel are relevant.

b. Describe the impact the experience had on your
   (1) Behaviour (what did you do?)
   (2) Feelings, and
   (3) Thoughts (what did you think about) at the time of its happening and now.

c. What has this experience meant to you in relation to your development as a person? What impact, if any, has it had on your life goals, and the type of person you would like to be?

d. Which experience (the painful or the most wonderful) had the most lasting after-effect? Please explain your reply.

Note:

a. The quotation marks and reference comment did not appear in the study completed copy of this questionnaire.

APPENDIX D

STUDY QUESTIONNAIRE (1)

Name:
Age:
Year at University:

STUDY QUESTIONNAIRE (1)

Instructions: Please circle the numbered response (1, 2, ...7) or letter (a, b, c) that is most appropriate for you in the following:

1. Peak or happy experiences, in your estimation, generally

Retard development			Have no impact on development		Enhance development		TOTAL
1	2	3(1%)	4(4%)	5(20%)	6(49%)	7(27%)	-101

2. Nadir or painful experiences, in your estimation, generally

Retard development			Have no impact on development		Enhance development		
1(5%)	2(12%)	3(11%)	4(2%)	5(22%)	6(32%)	7(17%)	-101

3. Nadir or traumatic experiences for some people have been so painful that even the thought of recalling them, as I have asked you to do, is considered upsetting and not a very pleasant task. Has this been the case for you?

Yes			Partly I am not sure		No		
1(6%)	2(11%)	3(7%)	4(12%)	5(14%)	6(27%)	7(24%)	-101

4. "A profound knowledge of oneself and a deep level of emotional experience, as well as a more meaningful contact with the environment seems to be impossible without going through conflicts, disharmony, intensified sensitivity, and even organic or mental illness."[Dabrowski, 1972, p.1] [a].

Agree					Disagree		
1(28%)	2(28%)	3(15%)	4(10%)	5(6%)	6(8%)	7(4%)	- 99

5. You have been asked to place your name on your replies to this questionnaire, and the unhappy and happy experiences questions. These results are for research purposes, and will not be disclosed on an individual basis to anyone at the college. Please circle one or more of the items below that describe your reaction(s) to this study.

Note: a. The Dabrowski reference did not appear in the student's copy of this Questionnaire.

16% (a. I found the Madison article entitled "The Campus: Coming of age at college, and the reading of the anonymous replies in class to be interesting and valuable in a personal way. (15%)

(b. I see the study as an invasion of my privacy. (2%)

c. I would like to hear about the results of this study. (67%) -100

6. Please feel free to make any additional comments in narrative form below concerning your reaction to me, the study, and the procedures utilized in collecting the data.

APPENDIX E

LETTER TO STUDY PARTICIPANTS

FACULTY OF EDUCATION
DEPARTMENT OF EDUCATIONAL
PSYCHOLOGY
TELEPHONE (403) [illegible]

THE UNIVERSITY OF ALBERTA
EDMONTON, CANADA
T6G 2G5

Subject heading: Changes in Personality Study.
by Earle Bain.

24 January 1975

Dear

I would like to take this opportunity to thank you for your cooperation thus far in my study about the impact of happy and upsetting experiences upon personality development of university students, and to solict your further cooperation.

Your personality test has been marked and I will be available to discuss your profile with you from Monday, 3 February until Friday, 7 February 1975, after you have completed a different form of the same test again. The reason for doing a different form of the same test is to get a measure of any change that may have occurred since your last writing of the test. If this time schedule is not convenient for you please contact me at my office (6-101 New Education Building, Tel.No. 432-5807) or call my home (Tel.No. 434-4082) and other arrangements can be made.

Some people taking part in the study have not completed the painful and happy experiences questionnaire. If you were not in class for this portion of the study, or have not yet returned it to me, I am enclosing another copy of the questionnaire. I would appreciate it if you would now complete this questionnaire and return it to me when you pick up your personality profile.

I am looking forward to talking with you during the first week of February.

Sincerely,
Earle Bain
Earle Bain.

P.S. Second Personality Testing and return of first testing results:

a. When Monday 3, February until Friday 7, February 1975.
b. Where Go to Ed.Psy.Test Library (6-106) on the 6th Floor of the New Education Building during the hours of 8.30 - 12.00; 1.00 - 4.30 (see attached map)
c. How The test can be completed in 50 minutes. Discussion of your personality profile can be as long as you like. Myself or the test librarian (Mrs. Nastajus) will be on hand to answer any questions you may have.

Thanks again.

APPENDIX F

STUDY QUESTIONNAIRE (2)

NAME:
Age:
Year at University:

STUDY QUESTIONNAIRE

Instructions: Please circle the letter (a, b,c, or d) or the numbered response (1, 2, . . . 7) that is most appropriate for you in the following:

1. Since your arrival at University have you been living:

    a. At Home? - 52%
    b. In residence? - 18%
    c. In an apartment? - 29%
    d. Other (please elaborate)? - 16%

2. This year, thus far, has resulted in my questioning many of the previous beliefs, values, and attitudes that I never questioned prior to attending University.

Strongly Agree			I am not sure		Strongly Disagree		Total %
1(21%)	2(23%)	3(23%)	4(8%)	5(7%)	6(12%)	7(5%)	-99

3. Life at University should be stimulating, and it cannot be stimulating without being stressful.

Strongly Agree			I am not sure		Strongly Disagree		
1(11%)	2(13%)	3(25%)	4(14%)	5(15%)	6(17%)	7(5%)	-100

4. Life at University and classroom studies and assignments impose little or no strain upon me.

Strongly Agree			I am not sure		Strongly Disagree		
1(3%)	2(12%)	3(6%)	4(5%)	5(19%)	6(33%)	7(21%)	-99

5. I feel pressured by fellow students into doing things I wouldn't usually do.

Yes			I am not sure		Strongly Disagree		
1(3%)	2(2%)	3(7%)	4(5%)	5(3%)	6(38%)	7(42%)	-100

6. Life at University should contribute to my growth and development as a person.

Strongly Agree			I am not sure		Strongly Disagree		
1(66%)	2(22%)	3(9%)	4(1%)	5(1%)	6(1%)	7	-100

APPENDIX G

VERBAL STIMULI MARKING CRITERIA

VERBAL STIMULI CRITERIA

Great Sadness (Nadir Experiences)

Level 1.

a. No great sadness.
b. Short-lived sadness, discomfort.
c. Cause or referent of sadness located externally.
d. Discomfort when basic needs are not met or satisfied.
e. Upset by failure to meet or achieve immediate material goals.
f. Hurt or angered when others don't recognize his worth or superiority.
g. Is never depressed.
h. No particular sadness or discomfort over another persons loss or trouble.
i. Tension directed outwards not inwards.
j. Aggressive tendencies, anger, hate, fear.

Level 2.

a. Occasional great sadness.
b. Variable: sometimes as if triggered, at other times as if due to a vague unconscious "welling up."
c. Difficulty in locating the cause or referent of sadness as being internal, external or both.
d. Sadness due to the fact of death (as distinguished from the problem of death): mainly ones own death, but also over the death of family or close friend.
e. Experiences morbid depression: feeling sorry for ones self because things aren't going right, or because one isn't sufficiently appreciated.
f. Fortuitous external events, or contact with others (usually family or friends) is necessary to bring one out of depression.
g. Experiences occasional sadness over another persons' (usually family or friends) trouble or loss.
h. Some tension directed inward, but without possibility of proper channeling for inner development.
i. Aggressive tendencies may develop which are self punitive, in which case suicide is very possible.
j. Sadness experienced as unclear, undifferentiated, inner agitations which may be shallow or extremely intense.

Level 3.

a. Frequent great sadness.
b. Great sadness increasingly internalized.
c. Cause or referent of great sadness is understood to be within.
d. Experiences and expresses distinct levels of great sadness (hierarchy of sadness). Sadness due to ones imperfections.
e. Sadness over another persons' trouble or loss.

8

Level 3 (cont'd).

f. An enlarging sadness over difficulties which seem inherent in all existence: the ignorance of man and his folly: his blindness and self-concern.
g. An expansive sadness over the prospect that the world means nothing when it should mean so much.
h. Sadness over ones' own insensitivity to others and himself.
i. Sadness due to ones' inability to help others and himself.
j. Sadness over ones' inability to communicate or express his beneficial intentions.
k. A more expansive (existential depression) as a result of knowledge of ones' self, and mans' general predicament.
l. Such depression may be relieved and released through inner psychic transformation - development of self perfection.
m. Such depression is often expressed and alleviated through self-initiated creative channels.
n. When such depression finds no outlet, the person becomes extremely immobilized, bringing severe psychoneurosis, or even psychosis.
o. Some joy mixed with sadness -tearful smile (rain on a sunny day).

Level 4.

a. Sadness because of existential insight into the suffering of others.
b. Sadness because one feels a distance from his personality ideal.
c. Sadness because he has developed a high level of empathy; he has realized the importance of empathic relationships, but is saddened because the beneficience of empathy is limited by the understanding of the other persons with whom he related.
d. Sadness because of his clear vision of the possibility of helping others, but of the impossibility of actually effecting help, owing to his own lack of resources and in part to the misunderstanding of others.
e. Sadness because of the impossibility of solving philosophical problems and problems of transcendence - especially because of conflict between a very high level of empathy (love and friendship) and difficulties concerning the reality and actualization of his own moral and global philosophy.
f. Clear and strong states of the "night of the soul."

Level 5.

a. Great sadness because of the extreme difficulty (even impossibility) of finding or arriving at higher forms of identification which give emotional experience and absolute understanding of the relation "I and Thou."
b. Antinomy between deep empathy and solitude of thought, and experience in relation to the absolute.
c. Antinomy due to uncertainty respecting the permanence of values.

Level 5 (cont'd)

d. Sadness because ones' own experience and philosophy do not resolve beyond all doubt the problem of transcendence.
e. Sadness because development is very slow - this in relation to all of existence.

Great Joy (Peak Experiences)

Level 1.

a. No great joy.
b. Shortlived comfort, pleasure.
c. Cause or referent of pleasure located externally.
d. Pleasure when basic needs are satisfied.
e. Happy and secure when immediate material goals are achieved, or when fortuitous events go his way.
f. Inflated by public recognition.
g. Proud or even triumphant over his being in control of physical circumstances or other persons.
h. Feels syntonous well being when with similar others - as in a bar, or after winning a game.
i. May delight in the difficulties of others.

Level 2.

a. Occasional great joy.
b. Variable: somtimes triggered, sometimes due to "welling up."
c. Difficulty in locating the cause or referent of joy, but usually understood in terms of external circumstances.
d. Rather syntonous joy due to the common well being of ones' family and friends.
e. Joy or relief due to temporary easing of burden.
f. Relief due to mental and emotional support given by family or friends.
g. Joy from social recognition.
h. Joy when personal wants correspond to social expectancies.
i. Joy from nature as a retreat from the hectic world.
j. Experienced as a bodily feeling: "tingle all over", "bubbling up", "Things feel good all over."

Level 3.

a. Frequent great joy, but less frequent than great sadness.
b. Great joy increasingly internalized.
c. Cause or referent of great joy is internally influential or determined.
d. Joy as a result of overcoming developmental difficulties in ones' self, and in relation to others.
e. Joy through the discovery of self authenticity.
f. Joy because of the experience of inner elaboration and the development of a hierarchy of values.

Level 3 (cont'd)

g. Joy through identification with the joy of others.
h. Global great joy through the experience of a synthesis of ones' self, and a relatedness with others and all of existence.
i. Mixture of great joy with sadness.

Level 4.

a. Great joy because of growing inner strength.
b. Great joy from empathic, highly elaborate cooperation and collaboratiob with others.
c. Joy from the understanding that sadness is necessary for development.
d. Joy because of a feeling of truth in ones' way, and the
e. Great joy due to periodic clear insight into ones' own ideal.
f. Great joy from a synthetic intuitional feeling of the reality of transcendence.

Level 5.

a. Great joy because one is approaching autonomy, authentism, and empathy.
b. Great joy from periodic clear vision of personality ideal.
c. Great joy as a result of clearly approaching transcendence.
d. Great joy due to self awareness.
e. Great joy due to the experience of mutual understanding through the "I-Thou" relationship in which individuality is not only fully maintained, but made more particularly dignified, while absolute closeness is achieved.

APPENDIX H

EXAMPLES OF VARIOUS TYPES OF PEAK AND NADIR EXPERIENCES

Peak Experiences Category Examples:

1. Identity formation, self awareness or finding the "real" me.

a. Female, 1st year, age 18.

My most wonderful experience sort of stems from the same thing as my nadir experience which is pretty strange. For some reason my experience with Don made me really see that I am not at all mixed up. You might say I "found" myself. When I was in high school, I was sure no one liked me yet I still stayed the same. I didn't conform to the way the group thought. Now in university with the same people, I find I still think the same and people do like me. This realization, when it hit me, sent a real thrill through my body. I couldn't believe it. I could really be myself, think the way I want to and still enjoy the company of other people who have different ideas than I do. I feel that the change has occurred in other people because I have always thought much the same. You might say my philosophy on life has only expanded. Maybe the change has occurred in me and I don't realize it. I do know that I'm more out-going than I was and this is probably because I have more self-confidence. I think that the whole problem in my relationship with Don was due to the fact that I couldn't believe anyone could actually feel that strongly about me. It just didn't seem possible. I think I was sort of scared of it. . . .

b. Female, 2nd year, age 21.

I believe in the theory that those who have felt the greatest sorrow, know the greatest joy and appreciate those small moments of happiness or even peace more than those who have lived a lukewarm life. In the fall of '73 I had been on the road back from a pre-University traumatic unhappy experience. I was greatly mixed up in my values and beliefs. It was then I met an old long forgotten friend who showed me that life didn't have to be as cold and ugly and harsh as I had made it. He made me truly happy, carefree, optimistic and self-confident. I trusted people again. I got myself straight again and really threw myself into my art work. I guess he over-inflated my confidence or optimism because when Graham shot me down (reference to Nadir experience) I saw I had been looking through rose-coloured glasses. I think I needed some happiness and purpose to life very badly when I met Ted and he gave it to me. Now I think I have reached a balanced state so I can handle most situations realistically, practically but usually hopefully also . . . .

2. Academic Success:

a. Female, 1st year, age 21.

A glow at discovering two 8 stanine's on my marks. The automatic reward of positive reinforcement . . .

Just the enjoyment of knowledge, a discovery of a large picture book called the "Age of the Renaissance" the delicious irony of discovering they too were waiting for a golden age . . .

I feel that just as we respond to the cognitive equivalence of a situation, object, emotion etc, that each experience whether tragic or comic or ecstatic is filled with its own essential value. Each its own drama - each a contributing developmental stage in our unconsciously and/or consciously planned destiny. I cry, I laugh but I go on.

3. Deep peer friendships or philia:

a. Female, 1st year, age 18.

My most intense happy moment was not a moment as such but rather a period of about 3 weeks from the end of September to mid October. I had gotten over my home sickness and had just broken up with my boyfriend of 3 years. I simply decided that I wasn't going to feel sorry for myself and so plunged into university life, especially the co-ed students residence I was at. I got to know the people, dated another fellow and literally felt "high" on good, happy living. I sometimes thought that it was too good to be true. I realize that part of my happiness was (1) the tremendous relief of not being around my (angry and unhappy) parents, who fought constantly, (2) finally getting enough courage to break up with a "parasitic" boyfriend and, (3) feeling for once like a likeable youthful person. The kids in residence were wonderful for me. And I also enjoyed the studying. (University with its "residence life" is the best thing that ever happened to me. I think that I would have stagnated if I hadn't come.)

b. Female, 1st year, age 18.

My most wonderful experiences occur every day at the same time when I have coffee with a great bunch of people I have met here. We laugh at a lot of things, share experiences and it generally helps us to unwind from any pressure we might feel. These times are when people can really communicate. I enjoy the talking, laughing, sharing and after this term I think I will really miss it.

4. Sex, love relationships or eros:

a. Female, 1st year, age 18.

. . . The most completely happy moments I can recall have been during the time I spend with my boyfriend. Our relationship is a strong, sharing one, and problems which may seem insurmountable during the week dissipate when we're together. It might sound rather cliche to call it a feeling of completeness, but I am much more satisfied and at peace with myself when he is around.

5. Becoming Independent:

a. Female, 1st year, age 18.

a. My husband and I are both from the same small farming community. This is his third year at university, but it is the first time I've been away from home. We wanted to go home for Christmas, but still we wanted to have a Christmas of our own as responsible adults - as a husband and wife - as our own family. But we gave up the idea because we were expected at home. One night before test week, we went uptown to get some presents. We wrapped the presents and were having a great time. When the presents were wrapped we piled them up against a wall and the thought struck us that even though we had no Christmas Tree we could paint a Christmas picture. We made popcorn and Kool-aid and we started painting. We painted the 3 wise men complete with camels, lake, mountains and the star. It was great. We never noticed what time it was still 1 A.M.

b. I felt good, proud of what we had done, somehow triumphant, very much in love.

I thought about the picture. I was happy that we could both paint on the same picture and have fun at it because for me painting is very personal. Now I think that painting the picture was onereason that we had a good Christmas at home, because we first established our own Christmas. Also, now I think that those are the stupidest looking camels I ever saw. They look like they were painted after midnight by a couple of crazy lovers. We'll hang it up next year.

c. It has helped me to become more independent of my parents, more willing to take advice or think seriously of criticism. I think it has helped my relationship with my parents and myself. I used to swear I would never miss them when I left home. When I did miss them, I was bitter and disgusted with myself. I think I finally am my own person. It hasn't affected my life goals but it makes everything nicer.

b. Female, 1st year, age 18.

I remember being extremely excited and happy about going home for my first visit after coming to University. I don't think that actually seeing everyone caused me to be that happy - it seems that the knowledge I had gained since coming here (about myself and life in general) had simply come to head, and I was able to appreciate what I had gained. Leaving home for the first time is a troublesome thing to do, for you have to face life on your own for the first time. Consequently, having done this, and actually being able to live with [myself] yields a satisfying feeling within. At that particular moment when I was leaving to go home - I realized what I had learned, how I had changed and I felt ecstatic.

As a result of this experience. I feel much more comfortable and relaxed in my situation here at the University. I also feel more able to concentrate on my studies, and I am looking forward to completing my formal education here.

6. Music appreciation and creative endeavours:

a. Female, 1st year, age 18.

Perhaps the most emotionally rewarding experience in my life since I've started university happened in February. It was a snowy Saturday (as usual). A friend had invited me to her parent's house for supper. After supper we planned to go to the symphony. For me this was a first time experience so I did not know quite what to expect. For the first half of the program we listened to the Edmonton Symphony Orchestra and for the second half we listened to a Mrs. Gina Buchanan from Austria. She was excellent in her performance playing Beethoven's 3rd Concerto.

It has been just in the past while that I have learned to appreciate classical music. While Gina played I felt very, very good inside. I felt as if I could be a ballerina and dance to her fine performance. That performance fulfilled me very, very much. I felt so nourished after hearing the performance. This experience is nothing spectacular yet for a first time experience for me it will be remembered for a long time. I have learned self-control in that I can sit down and really appreciate someone else's good work. It really gave me a peaceful head. By going to something like this I not only appreciate the mastery of the music itself but also the person, people involved. It makes me realize and want to work hard in whatever I do for myself in the year to come. It also builds me up culturally in the arts so to speak. I loved it and found it very satisfying!

I would say probably the nadir experience had the most after-effect on me because I know I have overcome that feeling now, especially here at the university. I feel more sure of myself now because of this experience because I realize that I was growing up at that point. I guess I realized that from here on in it's my life and I'm not really tied in anyway to anyone or anything although I have very deep feelings for my parents and friends.

b. Male, 4th year, age 22.

It occurred at the time I was taking creative writing from W.O. Mitchell. I'd been writing since Grade 7 and had harboured all kinds of plans of writing for a career. As the course was split into 2 halves (poetry and prose) we were able to experience the use of 2 media. I started out writing poetry and thought I'd been accepted into the program either due to my skill or the fact that I needed help It turned out to be the latter. I was not, as it turned out, a very skilled practioner of verse and so I went into the prose term with a certain amount of trepidation.

But it was there that I found myself. Mitch praised it and read it out loud and in private consultation, told me he could tell when someone had "it" and that I had "it." Which was all well and good, as far as I was concerned. He later asked me to do a reading with him, which would have been a great honour had I been able to do re-writes of my work well enough. I look forward to possibly studying with him again, so that I can recapture that feeling of accomplished skill that I was not so sure existed coming into his course.

The impact of all this is such that I haven't stopped writing (although I do wish I had more time to spend with it) and that I think I have a better idea of my own function as a writer. I realize that I don't have to do it for a living and perhaps that's why I'm still in love with it. It made me feel good to know that something I enjoyed doing was termed as enjoyable by someone else.

7. A oneness with nature:

a. Female, 3rd year, age 19.

At the beginning of September of this year, on a Sunday afternoon, my best friend and her cousin (also a friend of mine) came to my door with their bikes. We went off riding in the country. The weather was beautiful, not a cloud was in the sky. No one spoke a word and I was glad because then it would have broken the "spell" in a sense. I was very aware of everything around me, it was so beautiful. The wind lifting my hair from my face, the warmth of the sun on my skin, the smell of grain in the fields, and the sounds of the birds and insects. The view was beautiful. The golden grain was surrounded by trees whose leaves were just beginning to turn colour and these were set off by the brighteness of a blue, blue sky.

At that moment I was just so glad to be alive and have all my senses to experience it. I felt so excited or elated perhaps in a better word, that I felt something inside me was ready to explode to the outsides of me. I pedalled faster and faster and my friends followed my example until we stopped exhausted close to a stream and we just laughed for no particular reason at all.

I still think back on it now if I'm feeling a little down and if I close my eyes its just like it happening again. It picks me up again because I see that even if things are a little rough right now, better things have happened and will again because a walk or a ride in the country no one can take away from me.

Nadir Experiences Category Examples:

1. Academic disappointments:

a. Female, 1st year, age 18.

I think probably the most traumatic experience thus far, has been Mid-term exams. It may sound funny, but I think that's what it was. When I received the results of my exams, they triggered a state of deep depression. Because I know that I have an above average intelligence, (not bragging, facts are facts). I know I could have done much, much better on my exams. All of this made me realize that I wasn't working hard enough, and I just didn't have the incentive to do any work. I was not trying to be the kind of person I want to be. I felt almost like a vegatable, like I didn't even think or feel. Just eat and sleep. Doing so poorly on my exams made me realize all of this and threw me into a state of complete confusion. I felt like I was "too dumb" to be at University, I should be "holed up" where I don't have to interact with people at all, intellectually or otherwise. My self-concept was at an all-time low. (I hope all this makes sense!) I hated feeling that way, but there was nothing I could do about it. I think that I have never been as confused or frustrated since my early adolescent years.

b. Female, 2nd year, age 19.

7

Last term in an English course I had worked very hard on a a paper. I had spent many long hours on this paper and was very concerned about doing a good job. After it was corrected by the instructor I was thoroughly upset. I received a terrible mark and everything I had said in the essay the instructor shot down. The comments on the paper completely discouraged me. The instructor's comments on the paper - made me almost ready to quit university and throw the whole idea out the window. (The idea crossed my mind several times). I was so upset at the whole thing. The day which we received our papers the instructor had made several comments in class about how students coming out of high school don't have enough background work and knowledge to do adequate university work. He had nothing good to say about high school academics. Although he didn't directly say that the class wasn't very bright - the feeling could be felt. I was so mad at the professor and so discouraged. I had thoughts that coming to University was a place where one comes to learn more and to apply this knowledge to your life. From doing the paper, I had learned much but received no recognition because it was my thoughts and opinions that I stated in the paper. Those who stated the instructor's beliefs received good marks. After a couple of days of being "down in a slump" I finally pulled myself together, and reorientated my beliefs. I decided that what I learned was important even if the instructor thought different of my opinions and thoughts. I continued to take the course, and know I have set a standard up for myself. I judge myself according to my capabilities and my efforts. I am my own judge and I try to set my standards somewhat similar to the instructors, However, I do not write to please the instructor. From this experience I believe that I've become a better student. I have learned that as long as I please myself and continue to work up to my standards that I have been much more succesfull It is my self judgement that is important and I must keep in mind that I have to reflect my ideas and standards in my university life.

2. Self doubts and identity disintegration:

a. Male, 2nd year, age 19.

Sitting at home on a Saturday night and feeling really depressed about present lifestyle, but realizing that any other lifestyle would leave me equally empty. The thought that it was me that would have to change. Yet, the simultaneous awareness of the falseness of any mode of existence. Result was total despair - I felt the need to act, but didn't know what to act against or why. I continue to have these insights, but have no way of acting on them. Two levels of despair, one being the realization of my inability to conform to and cope with the situation I am presently in, and the second concerning the realization of the very falseness and idiocy of the situation itself and not having any other alternative.

b. Male, 4th year, age 22.

This, too, can be explained by my involvement with the university. It deals with my "almost-one-year" attendance in the Faculty of Law. I went with no particular desire, partially at my parents' urging. They were fed up with hearing "I don't know" for an answer to that perennial question "Well, what do you want to do with your life?" I was fed up with my lack of commitment for anything considered as practical. so I thought the idea of law would grow on me. It didn't. By December I was itching to get out. I didn't want to argue all my life, comparing loopholes with my "learned colleagues." But I didn't want to disappoint anyone either. I was engaged and had ensured my prospective mother-in-law that we'd have no problem paying back student loans after I graduated. My parents were plumping up with the idea of having a lawyer for a son. I didn't know which way to run or even if I should. It was the most indecisive moment of my life. Luckily, my wife realized what was going on and helped me make the right decision. I dropped out a week after we got married and haven't regretted yet! I felt so free after that and could begin thinking abstract terms again to piece together my raison d'etre . . ..

3. Eros Nadir Experiences.

a. Female, 1st year, age 21.

Saying goodbye to Jim my 2 year common-law love affair was a bit heavy and sad. How much is still love, habit, memory! We put each other through some very cruel scenes last summer, attacking each others' sexuality, mentality, and general level of sensitivity. He left for 6 weeks and cameback. We seemed to patch up the rift in actions more than words and realized our quasi-marriage was going nowhere. Difficult. Left me confused and very uncertain about progressing to such a personal level of intimacy and involvement again. It still bothers me as it seems to have ended so inconclusively. Felt strange being so independent - helped me see myself more independently though!

This experience placed me in a strange position of emotional adjustment. Waking up alone, eating with my room-mate, going for walks alone, all these things. It drained me until I discontinued being too overly emotionally identified - i.e. eliciting preconscious tragedy.

b. Female, 1st year, age 18.

I had gone with Ken for four months in the spring of '73. When we started to go around again last November, I was very happy and even thought, "Well, Carol this may be it." Thoughts like that were reinforced when he said "Why don't we both check to see if its the Lord's will that we spend the rest of our lives together?" To me, that said, "I love you and I just want to make sure that the Lord says it's O.K." I realized that I loved him and so it took me all of 2 seconds to say "Yes." For the next little while, I was walking around on cloud 367 and a half. People would tell me to come down, but I said, "It's fun being up here - I haven't been here for so long - I just want to find out what it's like." Slowly he started to back out. Not to worry, thought Carol. Remember I Corinthians 13 "Love endureth all things, etc." I really wasn't too worried. It looked like a long time before we could get married, it might be better to start out slower. Both of our schedules were really busy but we still managed to squeeze in time to see each other. Being with him still was a lot of fun; he's a terrific guy. But every now and then I'd get little pains around the heart, which I would promptly ignore. We officially broke up just before Christmas, but it didn't really hit me until first week of January. The biggest reason for this was we were committed to going to a Christmas conference and a weekend camp together and so saw each other every day almost continually. The other reason was that I couldn't believe in "unrequited love." It sounds so melodramatic. And besides, I had always thought that it was automatic (especially if you're a Christian). You love someone and they love you too. If they didn't love you, then you couldn't really be in love with them. I'd think about the situation for a while, think I had it all figured out, and then I'd see him and everything would go out the window. This proved, of course, that I didn't have it straightened out after all. Then the Lord started to speak to me. I was reading "The Hiding Place" a book by Corrie Ten Boom about how she helped hide Jews in W.W.II. One of the chapters deals with her love for this guy named Karel. To make a long story short, he married someone else. The Lord told her that she could still love him (you can't change your feelings) but that she would have to express that love in a different way. Bull's eye. Also I had made some comment that the Lord must have put my cold on a holding pattern for the weekend (I was getting one before, it went underground on the weekend, but it hit with a vengeance on Monday morning). If He could do it with a cold, couldn't he also do it with love. Well, I knew I was going to see him that night at a Bible Study and I knew that that would be the acid test. I passed it with flying colours. I was able to talk and joke with him and didn't even feel bitter at all. The difference between the other times and this one was that before I had just a head knowledge. I'd say "Sure Lord" but that was it. Now it has penetrated into my heart, I don't know what will happen with regard to Ken and me in the future, and I would be lying if I said I didn't care, but besides being an incurable optimist, I know beyond the shadow of a doubt that God always takes care of His own.

4. Dependency and the anguish of rejection:

a. Female, 1st year, age 18.

One of the worst experiences would have to be when I went back to my senior high school. I realized that I didn't know anybody, my teachers had all left or had no time to visit. I walked around and it was as if I had never been there before. Whenever I did meet someone, we just made small talk. I had feelings of not belonging I got the feeling that I had grown up and away from everybody there. As if I were on a different level and could not communicate with them. I left there with severe feelings of frustration and inadequacy. I left high school with several close friends. Since then I have grown away from them. (I am the only one in university). We rarely get together and when we do, we have nothing in common to talk about. They are developing their own circle of friends. Again I have the same feelings of loss, insecurity and inadequacy. The first time I walked into the cafeteria (SUB) was an unpleasant experience. I realized that I didn't know a single person there. Everyone seems to have their own cliques and I felt uncomfortable being there. It's as if everyone knows that you are new and they are watching and laughing.

b. Male, 1st year, age 18.

I enjoyed coming to University and was surprised that I was not lonely. Or so I thought until one night I phoned home and talked to my mother. I am the youngest in our family with one brother (a successful engineer) and two sisters. All of them attended U. of A. as I am. I considered myself independent of my family to a great degree.

Well anyway, I phoned home and quite involuntarily began to shed tears and get that lump in my throat. Maybe it was because I thought of how lonely my parents must be, but I realized the extent that I missed them.

This experience showed me my dependence on them. Now when I go home it is a beautiful experience and I can share my thoughts for the first time with my parents. (I also am beginning to realize my dependence on other people.)

c. Female, 1st year, age 18.

The worst feeling I have had since I've been at university occurred to me on a snowy Sunday in November. I was in church with a family that I usually go with and who I highly love and respect. As I was listening to the sermon I started to cry. I had talked to my mother just a few hours before so that might have been the reason why I started to cry. I kept this up all though the church service and I felt really badly about it. For I have never cried like that in church besides that's where one is supposed to be happy and joyful. Well, after church I went for a walk and tried to get my head together. I guess what I was experiencing was homesickness. There is not anything too drastic that has happened to me and if it has I've always been able to explain it. But I couldn't explain this - nothing seemed to be going right and things weren't all that bad. I just felt terrible inside. I felt like I wasn't a very understandable and loving person. When I have so much to be thankful for. I guess I really had a very low opinion of myself and really took myself apart. Yet, this experience or anything like it has not happened to me since Christmas. I guess my Christmas vacation did me a lot of good. I was very homesick not being away from my parents and friends for such a long time. Yet I do not feel sorry in anyway for that. I realize life is not great everyday and it's good to let loose every once in a while. I guess we are afraid to show our feelings at the best of times. I must say I have had some odd days where I just could not understand myself or the mood I was in. I guess that is the experience of first year university. One is very unsure of oneself. Yet as I look back on these few months, I must say I have loved it - I have had my ups and downs and I know I still have more, but I know where I am, what I'm doing here and where I'm going. These experiences have been rewarding to me in that I can understand myself better and in a sense what others are going through. I would say the first year of university for me has been very rewarding and going to university is one of the best experiences I've had to-date.

5. Role and interpersonal conflict with family, roommates and friends:

a. Female, 1st year, age 19.

Since coming to university I had expected many trying experiences. I came to university to be away from my home environment. It was not a bad one but I had been brought up as a basically free individual and so my chance to become more independent had come. Since moving to Edmonton I have been home once in 3 and a half months. (I felt it better to just let go completely to begin with.) When I did return home my family was happy to see me, and my Mom in particular. Since my return any contact with my Mom has made me feel very guilty. She feels hurt, I think because I did move away. When she moved away to go to school at my age she did so because she had to and because she did not love her Mom (In her own words). She was brought up very strictly and she resented it. I think she feels that I feel the same way and I do not. I am able to talk to Mom about anything but, I'm sure she would not admit to feeling this way. I understand why she feels this way, but I am still reluctant to return at Xmas because of this.

b. Female, 2nd year, age 19.

During February of my first year, I had just about had it with University, my friends, my parents and my boyfriend. It seemed that each little problem that occurred with these people was intensified by another problem. To begin with, I was having real trouble with 2 of my courses, not because I couldn't understand the content, but because I wasn't interested in the course any longer, and in one particular course I absolutely hated the professor. I mentioned packing it up for a year or two to my parents and they just about hit the roof! University education is EVERYTHING to them and they couldn't imagine what would happen if THEIR DAUGHTER didn't finish it. Did that bug me. Also at that time, this guy I was going out with seemed to be really immature: no matter where we'd go, his idea of fun was to go out and get hammered. Things that were important to me, weren't to him and vice versa. I guess we were going out only for a good time, because in February he turned to someone younger and I to someone older. We were a crummy match. I now realize there's no way I could have gotten serious with him! Also, living in residence puts a great deal of pressure on me. It's really a great feeling to get involved with people (some closely, some not so close) but there are times when absolutely everyone and their silly problems (so they seemed at times) drove you up the wall. Behaviourwise, I tended to isolate myself and was inclined to be very moody, often.

I've never forgotten those two weeks in February and I've decided not to let myself get that rundown by what other people feel and act towards me. Friends, parents are important, but so is yourself. Think how you want to and act accordingly keeping in mind what advice others have.

6. Death

a. Female, 1st year, age 19.

One of my good friends was killed in a car accident at Christmas. She was just an ordinary person not particularly wild or the type you don't expect to reach twenty. In our town everybody knows everybody and soon everybody knew. I was working in my Dad's store, trying hard to be polite and not to cry, and I succeeded very well, but I got sick of hearing everybody talking about it over and over. I was unable to go to the funeral because it was busy at the store. I never did cry about it for the longest time, but then I heard the song "Let it Be" and I just broke down.

I felt grieved of course, but also a little bit scared. Everybody knows about death, but nobody much thinks about it. At best not in relation themselves.

I don't think it has had any effect on my goals but it has increased my awareness and made clear my helplessness.

b. Female, 1st year, age 18.

On January 25, my sister's mother-in-law passed away. This was the first time in my entire life that someone close to me died. Before this I was absolutely convinced that I would NEVER attend a funeral. Under these circumstances however, my opinions changed. I felt that I needed to go, as some kind of last respect. I cannot actually put this type of feeling down in words . . . but it just gave me a new meaning of life. Now I feel how imporant it is for people to be together in one another's company to appreciate the little and the bigger things in life. It is a shame if we do not for we are only on this earth with each other for such a short period of time. People should strive to be compatible...

APPENDIX J

SOME PERSONAL REFLECTIONS

Conclusions - Some Personal Reflections

Dabrowski's theory of Positive Disintegration is a theory of affective and cognitive development. A study of this kind would not be complete without mentioning the emotional commitment of its investigator to the topic studied. The question - when does disintegration (which is accompanied by intellectual, imaginative, and emotional turmoil) lead to personality development and growth, and when does it fail to do so? - launched this dissertation and its accompanying intellectual voyage. The vicarious experiences this work engendered within the investigator along the way cannot all be put to paper. Please let me elaborate. A corner stone of Polanyi's (1958) "Personal Knowledge" paradigmn is that "we can know more than we can tell." I consciously began pondering the question that began this paragraph two years ago; I am certain that it existed subliminally for countless years prior to its present journey.

The voyage of the last two years has only uncovered the top of the iceberg. The projected implications of what I have learned bring me both grief and joy. First the grief, I am not happy with the large discrepancy that exists between what can be (accelerated development) and what is (normal development). Environmental engineering and attitudinal change can facilitate the bridging of this gap. A possible starting point to rectify this problem would be the reconvening by Faculty Counsel of the "Committee to Study Student Stress." They could use this dissertation as a working document to encourage non-defensive dialogue between academic staff, graduate and undergraduate students, and support staff. My anguish will turn to joy only when I have been successful in initiating the forum in question, when every segment of the university community and the society at large recognize the problem, and when in the words of Bronowski (1973) the "Ascent of Man" is uppermost in each of our minds.

> Knowledge is not a loose-leaf notebook of facts. Above all, it is a responsibility for the integrity of what we are, primarily of what we are as ethical creatures . . . The personal commitment of a man to his skill, the intellectual commitment and the emotional commitment working together as one, has made the Ascent of Man (Bronowski, 1973, pp. 436-438).

CURRICULUM VITAE

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AREAS OF SPECIALIZATION

The Development of the Whole Person - Traditional mechanistic (Psychoanalytic) and experimental (Behaviouristic) psychology view man as being "determined;" determined by forces beyond his control. I believe the aim of humanistic/ideographic/experiential psychology is to liberate man from the constraining pressures of hereditary, environmental, and unconscious determiners, so that he may become fully alive and consciously aware of his wholeness or holistic nature.

A Human Relations and Social Systems Approach to Teaching and Learning - I believe that the facilitating of self-understanding and the enhancement of good interpersonal relationships must be an educational as well as a therapeutic endeavour.

ACADEMIC BACKGROUND

1973 - Present	- Graduate Student (Candidate for Ph.D.) at the University of Alberta in the Department of Educational Psychology.
Summer 1972	- Completed a two week course entitled "New Ways of Teaching and Learning" at the National Training Laboratories (NTL) in Bethel, Maine. - Took a one week Computer Programming Course at Queen's University in Kingston.
1968-1970	- Completed M.Ed. degree in Educational Psychology (Counselling) at the University of Alberta in Edmonton.
1967	- Completed a six week Middle Management Course at the Canadian Forces Management School in Montreal.

1960 - 1964 - Graduated from St. Francis Xavier University with:

a. B.Sc. (Mathematics) Cum Laude
b. B.Ed.

EMPLOYMENT HISTORY

1973 - 1974 - Assistant instructor in Educational Psychology 421 - Personal and Social Dynamics in the Classroom, at the University of Alberta.

1970 - 1973 - Research Officer and Assistant Professor at the Royal Military College in Kingston, Ontario.

Academic duties included being course director and teacher of ML 101: Introductory Psychology: ML 201: Social Psychology; ML 309/310: Theories of Personality and Motivation; as well as counselling students with personal and academic problems.

Research duties included preparing research proposals, administering psychological tests, writing research reports, supervising research assistant and jointly administering the three year $11,000 DRB Grant held by myself and the head of the department.

1969 - 1970 - Employed in Edmonton as a counsellor of serving military personnel.

Duties included Vocational counselling; co-operating with Canada Manpower in conducting the civilian employment assistance program which aids retiring and medically released personnel during their transition to a second career; and acting as a consultant to medical doctors and social workers when a man's psychological problems are interfering with his work performance.

1966 - 1968 - I spent two years as a Personnel Selection Officer responsible for initial selection and trade assignment of officer and men applicants to the numerous trades and officer programmes available in the Army, Navy and Air Force.

1964 - 1966 - As a newly commissioned officer in the Canadian Forces, I spent four months as a Chief Instructor of a Leadership training school for junior leaders, and another 15 months in training and assisting in solving the personal problems of 36 members of an infantry rifle platoon.

ASSOCIATIONS

Canadian Guidance and Counselling Association (CGCA)

PUBLICATIONS

1. Bain E.H. The socialization process of ROTP cadets at RMC. Research Report 73-3, Kingston: Department of Military Leadership and Management, Royal Military College, 1973. Research supported by DRB Grant # 9465 - 12.
2. Bain, E.H. Learning for oneself and interpersonal growth within the college classroom. Paper presented at the CGCA Convention, Winnipeg, June 1973.
3. Bain, E.H. Personality, leadership and motivational characteristics of ROTP resignees from RMC. Research Report 72-8. Kingston: Department of Military Leadership and Management, Royal Military College, 1972. Research supported by DRB Grant # 9465 - 12.
4. Bain, E.H. Values and attitudes of militia of officer cadets. Proceedings of the 2nd Annual Symposium of Psychology in the Air Force, United States Air Force Academy, Colorado Springs, 21, April, 1971.
5. Carpenters, G.J., Ferdinand, P.R., MacDonald, M.J., MacDonald, V.N., and Bain, E.H. The military organization in an environment of social change: Bridging the compatibility gap. In Papers from Contributors to the Study of Professionalism in the Canadian Forces, Ottawa, September, 1971.

AWARDS AND SCHOLARSHIPS

1974) 1973) 1968)	- Selected in competition by the Department of National Defence for three years of subsidized study in Psychology at the University of Alberta.
1973	- Awarded Canadian Decoration
	- Offered Graduate Service Assistantship at the U of A valued at $3,700. The award was declined.
1967	- Received Centennial Medal

1960 - 1964 - Awarded a four year Regular Officers Training Plan Scholarship which paid for tuition, books, room and board.

- Murry MacLeod Scholarship ($200), upon graduation from high school.

PERSONAL HISTORY

Date of Birth - September 10, 1941 in Sydney, Nova Scotia.

Wife - Judith Ann Bain born August 10, 1943.

Children - Sherri Lynn born March 27, 1968.

- Kimberly Ann born March 3, 1970.